

THE
ISLAND OF CUBA,

BY

ALEXANDER HUMBOLDT.

Translated from the Spanish,

WITH

NOTES AND A PRELIMINARY ESSAY.

BY

J. S. THRASHER.

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IN GRATEFUL ACKNOWLEDGMENT OF THEIR SYMPATHY AND PROTECTION

IN A TIME OF PERIL,

BY THEIR OBLIGED COLABORER,

J. S. THRASHER.

P R E F A C E.

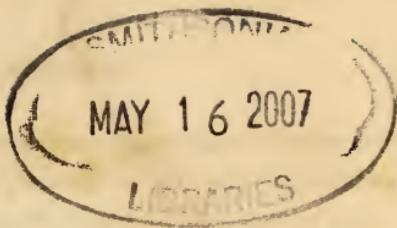
THAT portion of Baron Humboldt's "Personal Narrative" of his travels with Mons. Bonpland in the equinoctial regions of America, which relates to the Island of Cuba, has been published as a separate work both in the French and Spanish languages; but I believe no complete version has ever been presented in English. The following translation is from an excellent rendering of the original work into Spanish, which modestly gives only the initials of the translator; D. J. B. de V. Y. M.

I have been stimulated to undertake this labor by the oft-repeated request that I would state which is the best book on Cuba, and by the fact that a long continued residence in the island, and a study of its condition and resources, have convinced me that Baron Humboldt's work is the best that has been written on the subject.

In order to bring the information in this volume as nearly as possible down to the present time, I have added notes, which are placed in brackets in the body of the text, or without signature at the foot of the page, as seemed most conducive to a clear exposition of the present condition of Cuba. The notes of Baron Humboldt have the signature H. affixed in the following pages.

J. S. T.

NEW YORK, December, 1855.



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PRELIMINARY ESSAY.

AN essay upon the Island of Cuba, without some treatment of the political and social questions which affect its present condition and future development, would justly be deemed an unsatisfactory and incomplete work. We do not presume to bring to the subject anything like the clear precision, and charm of thought and style, which the admirable writer and traveller, Baron Humboldt, has thrown round the production we have ventured to reproduce in the translation which follows. But we have made these questions the subject of study for several years, under new aspects which have developed themselves since Humboldt wrote, and venture to offer the result of our observations and reflections, in the hope that they may supply an existing want, and prove interesting and serviceable to the American reader.

The complete view of the population and industrial condition of Cuba, presented in the work of Baron Humboldt, renders unnecessary any further remarks

upon that subject. We shall, therefore, limit the considerations we have to offer, to four heads, which are: I. The Territorial; II. The Political; III. The Industrial; and IV. The Social relations of Cuba, as they exist at the present time.

I. The territorial relations of the Island of Cuba, are of a more marked and permanent character than those of any other country of limited extent in America, and justify the Abbé Raynal's assertion that it is "the *boulevard* of the New World." The peculiar formation of the eastern shore of this continent, and the prevalence in the Caribbean Sea of the trade winds, which blow with great uniformity from the E.N.E., with a constant oceanic current running in its general direction, from east to west, make the narrow ocean passages, which skirt the shore of Cuba, the natural outlets for the commerce of Venezuela, New Granada, the isthmus States of Panama, Costa Rica, Honduras, San Salvador, and Nicaragua.

The rich and growing commerce with the countries bordering upon the Pacific Ocean, crossing the several routes of isthmus transit, is brought by these natural influences, under the immediate supervision and control of the fleets that ride in safety, in the numerous large and well-protected harbors of Cuba. The value of the territorial advantages thus conferred by its geographical position, must increase in the

same ratio with the increase of trade across the various isthmus routes, and every new enterprise in those regions has a direct and practical tendency to increase the moral power of whatever government rules in Cuba. The construction of the Panama railroad, at the cost of millions of dollars to the industrial resources of the United States, although of great advantage, in a pecuniary sense, to all the nations upon whose commerce it has conferred a benefit, has brought an increase of national power only to the Spanish government in Cuba, as it has brought a great increase to the tides of national wealth which must pass before its doors, and within its easy grasp. The same result must attend every increased facility of transit across the isthmus States, and every movement which shall tend to augment the products of labor within their borders, or their intercourse with the great marts lying upon the North Atlantic Ocean.

The physical geography of all the isthmus states north of Panama, and of the republic of Mexico, give to Cuba in this respect, a peculiar natural territorial relation to all those countries. Their eastern shores are wanting in those deep and capacious harbors, so necessary not only for commerce, but for the purposes of defence, while the situation of Cuba, with her numerous ports, opposite, and almost imme-

dately contiguous to their coasts, points to her as the natural depository for their productions, and the scene of their commercial exchanges with the rest of the world.

This natural relation is augmented by the physical aspect of the countries in question. Traversed as they are, through their whole extent, by chains of mountains, the construction of long lines of internal communication, which shall concentrate their trade upon any point within their own territory, is of very difficult and costly attainment, and Cuba thus becomes the probable channel of their future intercourse with the nations north and east of them. Though the value of this natural connection may now seem small, their mineral wealth, and vast tracts of fertile soil under a genial climate, indicate a great increase of importance at no very distant day, under the natural development of the progress of America.

The Gulf of Mexico, with a shore line of nearly six thousand miles, forms almost an exact circle, the great ocean outlet to which is through the narrow passage running along the northern shore of Cuba, and within a few miles of her best and strongest harbors. This formation of the land and sea, brings the rich mineral tribute paid by Mexico to Europe, and the bulky products of the region drained by the Mis-

sissippi river and its tributaries, within the control of the government of Cuba. It may close at will the only ocean outlet those countries possess, and thus inflict great evils upon all their industrial interests. The actual value of the commerce which that vast region now sends through this narrow channel, is almost beyond the power of enumeration, and the ceaseless tide of emigration, which is pouring its countless thousands upon the plains west of the Mississippi, is adding steadily to its sum. However great may be the facilities for passenger traffic, between the Atlantic and the Western States, the bulky products of their industry, which constitute the basis of their prosperity, must seek the markets of the world through the lines of internal water communication and their ocean extensions. Thus every waning year, increasing the industrial power of the mighty West, adds a new value to the strength that attends the geographical position of the island of Cuba.

The territorial relations of Cuba to the isthmus States, and to those bordering upon the Gulf of Mexico, for purposes of defence are also of an important character. Through its peculiar location it guards all the avenues of approach to their shores, making an attack upon them a movement of great difficulty and danger, while at the same time it cuts

off all hope of a safe retreat in case of reverses to the attacking enemy. The importance of Cuba in this respect, in its relation to the United States, is shown in the circumstances attending the English expedition against Louisiana, during the last war with England. The army and fleet of Sir Edward Packenham were concentrated at Jamaica, and in their advance upon the United States, were compelled to sail for nearly seven hundred miles, almost within sight from the shores of Cuba. When forced by the battle of New Orleans to retreat, the British fleet, with the remains of the army on board, fled to Havana for succor and relief, and could not proceed to Jamaica until it had remained there some time to refit. Had Cuba at that time borne as intimate political as it does territorial relations, to the United States, the British fleet not only would have found no port of refuge there, but it could never have safely approached our shores. A similar instance occurred in the attack by the French upon Vera Cruz. The fleet of Prince de Joinville concentrated at Havana before the attack, and returned there to refit after it had captured San Juan de Ulua.

The territorial relations of Cuba to the other islands of the Antilles, give it a marked preponderance. In area and population it exceeds all the other islands together, while in its abundance of safe

and capacious ports it equals them. Its geographical position gives it also peculiar advantages in respect to them. With one extremity resting in undisturbed proximity upon the Continent for support, the other extends between, and in sight of St. Domingo and Jamaica, which are the only other islands of the Antilles possessing any territorial importance. Its natural resources and facility of internal communication, give to these territorial relations a power which can never be superseded by any combination of natural or acquired advantages in the other islands of the American Archipelago.

Its territorial relations to the United States, constitute probably its greatest value in the estimation of European Cabinets. The geographical formation of our Atlantic and Gulf coasts places it midway between them, enabling the power that holds Cuba, to impede at will all maritime intercourse between their ports. At the same time it is the key to the sea gates of more than twenty thousand miles of river navigation emptying into the Gulf of Mexico, the shutting of which would inflict serious injury upon every interest connected with the great valley of the Mississippi. The evil effects of such an untoward event, would be felt not only by the industrial pursuits of the great and increasing States in that region, but also by the manufacturing and com-

mercial interests of the North and East, to which their important markets would be closed by the double operation of impeded intercourse, and the diminished ability of the West to consume the products and fabrics of the East, consequent upon their inability to dispose of their own surplus productions.

The territorial relations of the island of Cuba to the United States, have also a great importance in another branch of their domestic economy. It constitutes more than one-half of a bar of foreign territory, laying directly over the most important lines of transit between the Atlantic and Pacific States of the Confederacy, across or through which must pass the greater portion of the trade and intercourse between those sections, and of the armament and means for military defence of the Pacific States, if they would avoid the uncertain delays and dangers incident to the route round Cape Horn. The traffic by the isthmus routes, between the ports of New York and San Francisco alone, is now of greater importance and value than our foreign trade with any one nation, Great Britain not excepted. The value of treasure and merchandise transported by these routes exceeds annually one hundred millions of dollars, while more than one hundred thousand passengers throng them, giving employment to nearly one-half the ocean steam tonnage registered in the United States.

This bar of foreign territory over-lying these important lines of transit, extends from Cape Catoche, in Yucatan, which is the eastern point of Mexico, to the island of Porto Rico, a distance of fourteen hundred miles; and, under the geographical necessities of trade and travel, may be said, without any distortion of language, to lie immediately between the Atlantic and the Pacific States. Through this bar of foreign territory there are but three passages open to commerce, all of which are in possession, or under the immediate control of, European powers. The most western of these is the narrow passage between Cape Catoche and the western end of Cuba, forming the southern outlet to the Gulf of Mexico, and which can be approached from the Atlantic ports, only by first passing through the channel between the north coast of Cuba and the reefs of Florida. This passage lies about one hundred and fifty miles leeward from Havana.

The passage next eastward is the channel between the eastern end of Cuba and the western extremity of St. Domingo. It is about forty miles wide at the narrowest part, having the harbors of St. Jago and Guantanamo, in Cuba, on one side, Gonave and Port au Prince, in Hayti, on the other, and Jamaica lying directly across its southern outlet. These two are those most frequented in our intercourse between the

Atlantic and the Pacific States. The other passage is the narrow channel between the eastern end of St. Domingo and the island of Porto Rico, and is under the immediate control of the powers holding those two islands, being commanded by the bay of Samana, in St. Domingo, and the harbors in the Spanish island of Porto Rico.

Of the territory comprised in this long extent of country, Cuba, being one-half, and Porto Rico, one-tenth, belong to Spain, the government of which can barely be said to be an independent power; while St. Domingo, comprising about one-third, is held by the negro dynasty of Hayti and the mongrel government of Dominica, neither of which has a self-ruled policy. Jamaica, in possession of Great Britain, laps the contiguous extremities of the two greater islands. Cuba alone, of the Antilles, possesses sufficient territorial power to keep these passages open to our commerce, and to guarantee their safety. These territorial relations of that island, possessing as they do an important bearing upon all the neighboring countries, and conferring a moral power upon the government that holds it, are the subject of solicitude to the governments of Western Europe, and seem worthy of the watchful care of the statesmen of America.

II. The political relations of Cuba, strictly speaking, are those of the crown of Spain, to which it is

subject; but the condition of the two countries is so distinct, that it has given rise to natural political necessities and relations, or affinities, on the part of Cuba, which are separate from, and not unfrequently opposed to those of the Spanish monarchy; the one being wholly a European power, while the other, through her great productions and commerce, has natural relations of a purely American character.

The essential political interests of the island are antagonistic to those of the mother country. While the Cortes and the crown have frequently declared that Cuba does not form an integral part of the Spanish monarchy, but must be governed by special laws not applicable to Spain, and persist in ruling her under the erroneous and unjust European colonial system, the growing wealth and increasing intelligence of the Cubans, lead them to aspire to some share in the elimination of the political principles under which their own affairs shall be administered.

A like antagonism exists in the economical relations of the two countries. While the people of Cuba are not averse to the raising of such revenue as may be required for the proper wants of the State, in the administration of which they may participate, they complain with a feeling of national pride, that fiscal burdens of the most onerous kind are laid upon them for the expressed purpose of

advancing interests which are in every sense opposed to their own. Thus Spain imposes taxes to support a large army and navy, the principal object of which is to prevent any expression of the public will on the part of the people of Cuba. Another class of impositions have for their object the diversion of the trade of Cuba to channels which shall increase the profits of the agriculturalists, and mariners of Spain, without regard to the interests of the people of the island. Whenever any of these burdens become so oppressive, or ruinous to the island, that the court cannot avoid taking cognizance of the complaints of the people, the necessity that it must be replaced by some new tax, which shall immediately equal it in product to the revenue, is made the immutable condition of relief. In a word, the increase of the revenue, and the advance of the industrial interests of the people of Spain, are the guiding principles in the political economy of the present government of Cuba.

The civil administration of Cuba is of the same antagonistic character. We are relieved from extending our remarks on this point, by the full elucidation of the subject in the "Essay upon the political state, &c., of the Island of Cuba," published by General José de la Concha, in Spain, after his return from the post of Captain-General of the

island. The propositions sustained by General Concha are, that "The prosperity of Cuba is not due to the so-called laws of the Indies; nor does it prove the social welfare of the island; nor the excellence of its government." The result of this evil political system has been to create a feeling of dissatisfaction among the people of Cuba, and a direful determination on the part of the government, which is thus expressed by General Cañedo in his farewell address to the people of Cuba, on resigning the command of the island to General Pezuela, in December 1853.

"Remain then impassive in the love which you profess to our august queen, and to the mother country; remain obedient to the supreme government and to the authority which represents it, and never forget that the very existence and name of Cuba depends upon its continuing to be a Spanish possession."

The political relations of Cuba towards the other continental nations of Europe, partake of the passive antagonism inherent in the communities of America; but as this is entirely absorbed by its submission to Spain, these relations exhibit only the character of those of the Spanish crown.

With Great Britain a severe contest has been carried on for several years, during which the mother country, up to a certain period, defended the interests

of her colony. The countervailing policy of France in the Spanish peninsula, more than any other circumstance, enabled Spain to resist the demands of England; but the advent of Louis Napoleon, and his hearty union with the British cabinet in a policy, which the Earl of Clarendon describes as affecting the policy of those nations in both hemispheres, changed the relative position of those governments toward Spain. England claimed the right, under treaty stipulations, to interfere in the domestic affairs of Cuba, and as this claim and the attendant negotiations involve some of the most important questions relative to the future of Cuba, we give the following extracts from the official correspondence on the subject. They will best exhibit the relative positions and aims of the two governments, and perhaps throw some light upon a matter which is still involved in the obscurity of diplomatic intercourse. The possible stipulations of Spain with England on this subject, have awakened the liveliest alarm in Cuba, and have been the subject of much warm discussion in this country.

In 1841 England endeavored to establish by treaty a British tribunal in Cuba, with power to decide the *status* of the negroes making application to it. Lord Aberdeen, in a dispatch of 31st December 1843, to Mr. Bulwer, then British Minister in Spain, holds the

following language in relation to this attempt, and its temporary abandonment.

"In 1841, the draft of a Convention was transmitted to Madrid, by which it was proposed to institute, by the aid of British functionaries, an examination into the titles by which the slave population of Cuba is held in servitude. Encouraged by the novel appearance of good faith on the part of the government of Cuba, as it was then administered, her Majesty's government admitted the weight of certain objections raised against that proposal by the government at Madrid, and forbore for the time to press it."¹

The objections here alluded to, were the remonstrances from Cuba, which were couched in the strongest language. On the first allusion to the subject by the press in Spain, the Junta de Fomento of Havana sent to the court a protest signed by Count Villanueva (the intendant of the island), as president of that body, which, after eloquently depicting the results of that measure to Cuba, says:—

"It is not to be presumed that any white man will be disposed to submit to so hard a fate. They will all prefer to emigrate to foreign countries to earn

¹ Report on the Slave Trade, laid before Parliament, 1853, pp. 69-70.

their livelihood and save the lives of their children, if they do not previously adopt the course which a state of desperation would prescribe.” * * *

* * * “There has been but one feeling or opinion since the arrival of the publications in question from Madrid, which is, that the island would be irrecoverably lost by it to the mother country, and to its inhabitants, who would prefer any extreme to the calamity of sacrificing their fortunes, endangering their lives, and remaining in a state of subordination to the negroes.”¹

This “Draft of a Convention” was sent to Cuba by the Regency of Spain, for consultation, and produced the most urgent remonstrances from the municipal authorities of Havana, the Junta de Fomento, and other public bodies, and from many eminent citizens to whom it was submitted by the local authorities. Their language was uniform and bold, the Ayuntamiento of Havana declaring that if the Convention were signed by Spain, it would be productive of a bloody revolution in Cuba. These representations induced England to forbear for a time.

In 1850 and 1851, these demands were again

¹ Correspondence on the Slave Trade, published by order of the House of Commons, 1841, Class B, p. 285.

pressed by England with great energy and warmth, and strenuously resisted by Spain. On the 23d March, 1851, Señor Bertran de Lis writes to Lord Howden :

“ But it seems impossible that the well-known perspicuity of the Cabinet of London should have overlooked in its turn the immense responsibility imposed upon the queen’s government by the present circumstances of the Spanish Antilles, and the stringent duty in which it is placed, of proceeding with the greatest prudence and circumspection, in all matters which may exercise either directly or indirectly any influence upon the social and political situation of those colonies.

“ You are aware of the dangers by which these colonies are menaced. You know that for the prevention of these dangers, for the consolidation of the security and preservation of its transatlantic possessions, her majesty’s government, hitherto, unfortunately, reduced to its own means, cannot as yet rely upon the decided protection of its most important allies.”¹

The moment was opportune for England, and she did not hesitate to take advantage of it. General Lopez was at that time preparing in this country his

¹ Report on the Slave Trade, &c., 1853, p. 72.

second expedition to Cuba; and Spain feared the possible loss of her colony. In the midst of these anxieties Lord Palmerston writes to Lord Howden, the British minister at Madrid:

[Extract.]

FOREIGN OFFICE, 10th July, 1851.

"The Spanish government will do well to consider that if such a course of proceeding shall continue, the people of this country, instead of looking with displeasure at attempts which may be made to sever Cuba from the Spanish monarchy, may be led to view with satisfaction the accomplishment of an event, which, in consequence of the conduct of the Spanish colonial authorities, will have become the only means of putting an end to the commission of crimes which the Spanish crown solemnly bound itself, many years ago, utterly and for ever to prevent any Spanish subject from committing."¹

LORD PALMERSTON TO LORD HOWDEN.

[Extract.]

FOREIGN OFFICE, 7th August, 1851.

"Her majesty's government deem it due to the frankness which ought to characterize the intercourse of friendly governments, to let the Spanish government know, that if, as seems to be the case, the government of Madrid is unable to cause its subordinate

¹ Published dispatches.

officers in Cuba to carry into execution the treaty engagements of the Spanish crown for the suppression of the slave-trade, and to enforce the laws promulgated by the crown of Spain in execution of those engagements, the British government must deem itself obliged to take the matter into its own hands, and to have recourse to such measures in relation to it as may appear to her majesty's government best calculated to accomplish the purpose in view.”¹

These threatenings were replied to by the Marquis de Miraflores on the part of Spain, in a firm tone. On the 19th of August, he wrote to Lord Howden:—

“If by any unfortunate combination of circumstances, or perhaps in consequence of an inconsiderate zeal, or from any motive whatsoever, an undue interference on the part of the commanders of the new naval forces in matters of maritime or internal jurisdiction of the island of Cuba, were to give rise to some conflict with the authorities of that island; if in this or any way, a new element of disturbance were added to the numerous ones, which, in spite of the government of the United States, are fostered against that island by American pirates, in combination with some disloyal natives of Cuba, her majesty's government declares at once, that after repulsing with all the

¹ Published dispatches.

energy in its power any intrusion of that kind, it will hold the cabinet of London responsible for the fatal consequences which might therefrom ensue to Spanish domination, under the critical circumstances under which it is now placed in the West Indies. And finally, that should the conflicts above alluded to take place, the Spanish government would not hesitate to appeal to the decision of the whole of Europe, trusting that public opinion, even in the ever loyal and enlightened English nation itself, would justly appreciate whether the conduct of the British government would have been such as the government of the queen, my august sovereign, has a right to expect from a power which calls itself the friend and ally of Spain; and even consistent with what was required by the interests of England itself.”¹

On the 11th of September, Lord Palmerston replied to the Marquis of Miraflores, disclaiming all wish to violate the rights of Spain, but at the same time desiring to come to a plain understanding with the government at Madrid, and to make that government comprehend that “Great Britain will no longer consent to be baffled;” and throwing upon the government of Spain any consequences that may arise. During this correspondence, the Marquis de Miraflo-

¹ Published dispatches.

res skillfully availed himself of an apparent contradiction in the arguments and recommendations of England, to which Lord Palmerston replies:—

“With reference to that passage in M. Miraflores’ note, in which he states that the Spanish government cannot understand how her majesty’s government can seriously recommend a measure which would prove very injurious to the natives of Cuba, when they also recommend that the Spanish government should conciliate the affections of those Cubans, I have to instruct your lordship to observe to M. de Miraflores that the slaves of Cuba form a large portion, and by no means an unimportant one, of the population of Cuba; and that any steps taken to provide for their emancipation would, therefore, as far as the black population are concerned, be quite in unison with the recommendation made by her majesty’s government; that measures should be adopted for contenting the people of Cuba, with a view to secure the connexion between that island and the Spanish crown; and it must be evident that if the negro population of Cuba were rendered free, that fact would create a most powerful element of resistance to any scheme for annexing Cuba to the United States, where slavery still exists.”¹

¹ Published dispatches.

This correspondence, which was continued during the succeeding year, did not attain the desired result, and in December, 1852, Lord Palmerston, in a dispatch to Lord Howden, thus forcibly depicts the reasons which animate the Spanish government to resist the demands of England.

"First, in order to afford income to a number of ill-paid public officers, or to appointed favorites, by means of bribes given by slave-traders; and

"Secondly, for the purpose of retaining a hold upon the island; because it is thought at Madrid, that as long as there is in Cuba a large number of negroes, the white population will cling to the mother country for protection against the black race.

"But both these motives are founded in error, for it can never be the interest of a government to demoralize its own officers, and to accustom them to violate the law; and a mother country will have but a feeble hold of a colony, if the strongest tie which connects them, is the fear on the part of the planter of an insurrection of the negroes.

"It is obvious that protection against such danger might be found by other means, and in other quarters; by the suppression of the slave trade, which many Cuban proprietors desire; *or by annexation*

to some other State, for which scheme there are not wanting partisans in Cuba.”¹

These extracts show the antagonistic positions held by the governments of Spain and Great Britain to the close of the year 1852, and afford a clear insight into the aims of the latter, in regard to the political and social relations of Cuba. In the beginning of 1853, these positions were unchanged, and England continued to press her demands with unabated vigor. This is evident from the following dispatches :

LORD JOHN RUSSELL TO LORD HOWDEN.

[Extract.]

“ FOREIGN OFFICE, January 31, 1853.

“ Your lordship may be assured, that however friendly the councils of her majesty may be to Spain, whatever may be the interest of this country not to see Cuba in the hands of any other power than Spain, yet, in the eyes of the people of this country, the destruction of a trade which conveys the natives of Africa to become slaves in Cuba, will furnish a large compensation for such a transfer. For such an exhibition of public feeling the government of Spain should be prepared.”²

¹ London Daily News, 31st December, 1852.

² Report on the Slave Trade, 1853—p. 195.

CONDE DE ALCOY TO LORD HOWDEN.

[Extract.]

" MADRID, February 9, 1853.

" Her majesty's government has seen with deep regret the hint made by your lordship as to the effect which the supposed increase of the slave-trade is likely to produce on the opinion of England, with regard to the manner of viewing the fact of the island of Cuba being taken possession of by another power; and I assure your lordship that what on this subject is particularly painful to her majesty's government, and even more regrettable than any considerations affecting the immediate interests of Spain, is the melancholy reflection that the change of opinion in England, which your lordship anticipates, would be a triumph for the partisans of force, and a defeat for the upholders of right; because from the moment in which it should be declared that, for more or less plausible reasons, although not connected with the questions of right, it is lawful to look with indifference at the spoliation of one nation by another nation, the subversion of all principles, and the oblivion of the law of nations, on which the peace of the world is resting, would then be sanctioned. * * *

" At all events, the government, who knows the loyalty, and the noble feelings of the Spanish nation,

is well aware that, should the case arrive for it to defend her right, this nation will do her duty as she has done on former occasions, without counting the elements of resistance, and relying only on God and the sanctity of her cause, and on her constancy and valor.”¹

This position of Spain towards England, was soon after changed for one of complete harmony with regard to the social and political relations of Cuba, and it is somewhat remarkable that the change in the position of the Spanish government was so sudden, and unexpected by England, that conflicting dispatches were written on the same day to each other, by the secretary for foreign affairs in London, and the British minister at Madrid. On the 16th of March, 1853, the Earl of Clarendon writes to Lord Howden that the position of Spain “endangers the friendly relations between the two countries;”² and on the same day Lord Howden writes to the Earl of Clarendon, that “the Spanish government has agreed to a settlement of a question which has long been a matter of painful discussion and dispute.”³ What the conditions of this settlement were, can only be partially conjectured from subsequent

¹ Report on the Slave Trade, p. 196.

² Report on the Slave Trade, 1853—p. 196. ³ Do. p. 74.

events, and from the measures taken by Spain in Cuba. Lord John Russell stated in Parliament, on the 4th of May following, that they were satisfactory to England.

Coincident with this arrangement between England and Spain, there are two remarkable statements made by British statesmen. On the occasion of the rejection by the United States, of the proposition made by England and France, to enter into a tripartite treaty relative to Cuba, Lord John Russell directs the British minister at Washington to say to the American secretary of state :

“ Finally, while fully admitting the right of the United States to reject the proposal made by Lord Malmesbury, and Mons. de Turgot, Great Britain must at once resume her entire liberty, and upon any occasion that may call for it, be free to act either singly or in conjunction with other powers, as to her may seem fit.”

Lord Clarendon, while secretary for foreign affairs, subsequently made in Parliament this celebrated announcement relative to the united policy of England and France.

“ I will further add that the union between the two governments has not been confined to the Eas-

tern question. The happy accord and good understanding between France and England, have been extended beyond the Eastern policy to the policy affecting all parts of the world, and I am heartily rejoiced to say, that there is no portion of the two hemispheres with regard to which the policy of the two countries, however heretofore antagonistic, is not now in entire harmony."

The foregoing extracts, with the subsequent measures taken by Spain in Cuba, render it evident that the political relations of the island to England, which were for a long time the subject of warm discussion, have experienced a radical change. The conduct of the British naval commanders in the mid-American waters last winter, sustain this view. As the effects of this change, and the consequent measures taken by the Spanish government in Cuba, relate more particularly to the social relations of that island, we shall consider them under that head.

The political relations of Cuba to the republics of Spanish America, are of the most limited character. Havana was for a long time the centre of the operations by Spain against her revolted colonies, and became the refuge of her troops, when they were driven from the continent. The few years that have elapsed since the recognition of the independ-

ence of those countries by Spain, have not sufficed to create any important political relations, between them, to which their opposing systems of government are also averse. Within a few years the queen-dowager of Spain, Maria Cristina, has maintained a private agent at Havana, who has been connected with intrigues in Mexico, and other places, with the supposed object of placing a Spanish prince on an American throne. These movements, however, have been of little importance. The community of language, customs, and religion between Cuba and the republics of Spanish America, together with their relative geographical positions, indicate a probable political affinity whenever the axioms of public policy which now rule in Cuba, shall have been changed.

The political relations of Cuba with the other islands of the Antilles, have been very slight until within a short time. For many years Spain did not recognize the black empire of Hayti, and held little intercourse with Dominica. Lately a treaty has been made with Soulouque and a diplomatic agent, sent to Hayti, to act in conjunction with those of England and France. Existing circumstances exhibit a probable complication of these relations, at no very distant day. The advancing age of Soulouque, combined with the absence of a direct male heir to his crown, and the intrigues for the succes-

sion, may soon create a state of affairs in Hayti in which the powers of western Europe, always so ready to mingle in questions of territorial difficulty, or of dynasty, may feel themselves called upon to interfere. Any infringement of the rights of a subject of either crown may form a pretext, and a cover for political designs, as we have seen in late occurrences in the Dominican republic, where a pretended infraction of individual rights, enabled them to prevent the completion of a treaty between that republic and the United States.

The political relations of Cuba with the United States constitute, in a great measure, those of Spain with this country. They have been marked with many cases of irritated feeling, arising in most part from the wrong application of general principles to private cases, by ignorant and irresponsible officials. All the exponents of Spanish public policy trace the loss of her rich American possessions to the evil example of the United States; and from this they deduce a necessity of resistance to every principle or precept, that in any way assimilates to the American theories; and this necessity, they think, can be fully complied with, only by a constant opposition to the interests of such American citizens as commerce, or any other cause, may bring within the sphere of their power. The Spanish press in Cuba

also strives to impress upon the public mind the belief that a war of races exists, and that wherever the American Saxon has prevailed, the Spaniards and their descendants have been despoiled and driven out.

Influenced in a great measure by these ideas, we have seen repeated instances of abuse of power by the subordinate officials in the island, exercised upon American citizens and consuls; and on some occasions by the superior ones, when such abuse was supposed to produce an advantageous political effect in Cuba. This disposition on the part of the Spanish officers towards the United States and their citizens, has been fostered by the marked difference exhibited between the policy of the European powers and that of our own government, in regard to the rights of their subjects and citizens abroad. Whenever a subject of any of the prominent powers of Europe complains to the representative of his government of an infringement of his rights, his relation of the facts of the case is assumed by the representative to be the correct one, and immediate action is taken; and not unfrequently followed by an exhibition of force to compel respect, or restitution. In all such cases the representative receives the public sanction and support of his own government, even if he has acted inconsiderately; reproof for over-zeal being a

subject of private administration. Unfortunately for our own citizens abroad, our government, conscious of its own respect for the rights of the foreigner here, assumes that every other government is animated by the same feeling, and has pursued a system of international intercourse the reverse of that followed by European governments;—inquiry being substituted for belief, and delay for action. Thus the wrong is often consummated, and submitted to by the citizen, because the seeking of redress is more ruinous to him than submission, and the affair is forgotten,—no administration being anxious to assume and correct the omissions of former ones. If any representative abroad embroils himself with the subordinates of a foreign power, in seeking redress for our citizens, his communications to the cabinet at Washington remain unanswered, and he is not unfrequently abandoned to the degrading sense of having urged an unsustained demand. For the support of these assertions, we do not hesitate to appeal to every one of our citizens, who has been in public position abroad as a representative of the United States.

These circumstances have tended to complicate our political relations with Cuba, for the nature of the Spanish character has been so orientalized, by the seven hundred years of Moorish dominion in

Spain, that a Spaniard generally respects only those whose power he fears; and being released from all fear of that of the United States, the conduct of the subordinate Spanish officials towards our citizens and representatives, is uniformly one of disrespect, covered with a thin mask of great politeness. Thus has arisen the long list of insults to consuls, and outrages upon private citizens, presented by the history of our relations with Cuba; and which, through each succeeding neglect, has so increased, that no administration has yet been found with sufficient nerve to open the whole subject.

III. The industrial relations of Cuba are exhibited in detail in the pages of the following work, and a few general remarks are all that are required here. The nature of her soil, climate, and labor, peculiarly adapt her to the production of sugar, coffee, and tobacco, and to the cultivation of these three staples her industry has been mainly directed. Under these circumstances, an untrammelled commerce with other countries is as necessary to her social existence, as it is for the advance of her public wealth. The meats and grains for the subsistence, as well as the fabrics for the use of the inhabitants, must be obtained from other countries through the medium of commercial exchanges. In conducting these, the care and intelligence of individuals directly inter-

ested in the result of each private enterprise, are better able to attain an advantageous result to each adventure, than the wisest legislation can possibly be ; and it is the aggregate of individual profits that constitutes the public gain, and the welfare of the State. The commerce of Cuba, therefore, would be most advantageously conducted, if left to the natural promptings of individual profit and loss. A different economical theory, however, prevails with the government of Cuba, and restrictive laws modify her industrial action in a manner that produces a large positive loss to her.

Her natural exchanges with Spain are the products of her own labor, in return for the fruits of Andalusia, and the wines of Catalonia. The existing laws, however, compel her to purchase in Spain all the flour consumed in Cuba, at a cost fifty per cent. greater than she could obtain it in nearer markets, if free to seek them ; while the same obstacles force her to import in Spanish ships, a large portion of the products brought from other countries, at a much greater cost for freight than if her merchants could employ those who would perform the service at the lowest rate. Thus, for a valuable portion of her trade, she is forced to employ two sets of ships ; one to bring the linens and cottons from the looms of

Europe to her ports, and another, which comes empty to her shores, to convey the return cargoes of sugar and other productions. Without the existing system of differential duties in favor of Spanish bottoms, the vessels which now come to Cuba in ballast from Europe, would supply all the wants of the trade, and the costly employment of a large number of Spanish vessels could be dispensed with.

The industrial relations of Cuba with the northern nations of Europe, are principally confined to the exchange of her products for their linen and cotton fabrics, glass, and iron ware.

England loans her the capital to build her railways, and the improvements made in the arts and sciences in France, are eagerly studied, and readily adopted by the people of Cuba, particularly in everything relating to their own immediate pursuits.

The industrial relations of Cuba with the United States have been of a more important character, and have had more influence in her material progress, than those with any other country. In the dawning years of her prosperity, she found here the food and lumber for the supply of her agricultural industry ; the articles of use or luxury desired for the comfort of her people ; and, in no small degree, the skill and capital for the development of commerce, and the

mechanic arts in her ports. During many years her trade with this country exceeded that with all other nations.

There are, probably, no two separate countries whose industrial relations are so completely reciprocal, as those of Cuba and the United States. Producing staples that enter into constant general use in this country, the natural wants of her people afford a market for the products of every section of the Union. The forests, fisheries, manufactures, and shipping of New England; the farmers, dairymen, miners, and handworkers of the middle States; the lumber-men, naval stores, and rice-growers of the South; and the meats and grains of the West, all find an appropriate exchange in the markets of Cuba. An adverse fiscal system, aided by our own unwise retaliatory acts of 1832-3, have changed the course of a large portion of this trade, and retarded its general increase.

The cotton and linen manufactures of Europe are consumed in Cuba to the value of five millions of dollars annually, a large portion of which might be supplied by the better and cheaper products of American looms. In the same manner we find that unequal fiscal impositions change the natural current of other branches of trade, and that flour, instead of being purchased in the cheapest mart in the world,

is sought on the other side of the Atlantic; that olive oil of the most inferior quality is enabled to compete largely with lard for domestic purposes; and that of forty millions pounds of meats imported, less than three millions, or about seven per cent. only, is imported from the United States: while butter and pork, being subject to an equality of fiscal exactions, are imported to the extent of more than ninety per cent. from this country.

The proximity of Cuba to the United States, and the constant and frequent intercourse between them, have been productive of the happiest effect upon the industry of the island. Her infant coastwise commerce found, in our small vessels, a ready supply for its needs; and her steam navigation received its first impulse and subsequent growth from our own. The erection of machinery, and the application of steam power to labor in all parts of Cuba, have also been, in no small degree, the result of this proximity; and the influence of these, and many concurrent relations, has been felt in every throb of her industrial system.

The industrial relations of Cuba with Spanish America have been injuriously affected by political causes which have nearly destroyed a once profitable trade with the ports on the Gulf of Mexico, and the Caribbean sea. The most important branch of commerce with them is the trade in jerked beef brought

from Buenos Ayres. It is not a reciprocal trade, for the countries of La Plata consume a very small amount of Cuban products; but is the fruit of the present fiscal system of the island, the greater duties upon the meats of North America forcing the consumer to seek a supply from the inferior products of the plains of South America.

The true relation of Cuba, or rather of its chief port, Havana, to Spanish America, is indicated by Baron Humboldt, in comparing it to the relation of New York to the United States. This natural connection has been severed by the wars of independence in Mexico, and South America, and almost annihilated by the long continued obstinacy of Spain, in refusing to acknowledge the independence of her former colonies. Speaking of the early years of the present century, Baron Humboldt says, "Havana purchases in foreign marts much larger quantities of goods than are needed for her own consumption, exchanging her colonial products for the fabrics of Europe, and selling them again at Vera Cruz, Truxillo, Laguaira, and Carthagena." The proximity and frequent communication of Havana with the United States and Europe, should have made her the medium not only for the interchanges of commerce with Spanish America, but also for those of politics, science, art, and literature.

When the former Spanish colonies were severed from Havana, they were in a great measure deprived of a necessary connection with the advancing civilization of Europe and America, the rays of which, gathered as it were in a focus by the world-wide commerce of that city, would have become assimilated, and adapted there, to the spirit and needs of her sister communities, reflecting thence upon them, to their constantly increasing advantage and enlightenment. The elements of that natural relation with Spanish America, still exist in the admirable geographical position of Havana, in the community of language and religious faith, and in the reciprocal necessities of the people. Here we may find the key to the true theory of the regeneration of Spanish America; for we cannot suppose that the extension of American institutions, and of our theories of freedom, and self-government over those countries, involve the annihilation of the Spanish race in America.

IV. The social condition and relations of Cuba have been influenced and modified by her insular position, and by her political connection with Spain. To the first of these is, probably, to be traced the cause that her population is composed in a great measure of two unmixed races—the European white and the African black; and to the second, the reason that, notwithstanding a community of origin and

language, there is little social affinity between her population and the Spanish American nations of the continent. In contemplating the present social condition of Cuba, we should not forget the origin and causes of the principles and laws upon which it is based.

The early settlers of Cuba and of South America were fearless adventurers seeking for gold. The native races of the Antilles soon melted away under the hardships imposed upon them by their new task-masters, and these, cavaliers and hardy men-at-arms, were unfitted to till the soil, or pursue the peaceful avocations so necessary to the welfare of every community. The disappearance of the indigenous races gave rise to a great social necessity in the new settlements. "Send us at once," say the Spanish officers in Cuba, in 1534, to the emperor, "send us at once the seven thousand negroes, that they may become inured to labor, before the Indians cease to exist; otherwise the inhabitants cannot sustain themselves, nor the government detain any one here, for with the new tidings from Peru, all desire to leave."

This social necessity gave birth to negro slavery in America; but the new institution made little progress until the humanitarian arguments, which we find again brought forward now for its destruction, were brought to its aid. Las Casas, bishop of

Chiapas, moved by the deepest compassion for the native races, urged, upon the ground of humanity, the substitution of African slaves for the natives in the labor of the new communities. The hardships of the poor Indian were dwelt upon with the same fervor and zeal, the same heedless inconsistency, that characterizes the appeals of the humanitarians of the present day in behalf of the negro, and the conscience of Europe gave an energetic impulse to the new institution. Thus did a fallacious sentiment of humanity give life to the new social system in America, and work a change in the material condition of man throughout the world, widely different from that anticipated for it by its early apostles.

The cultivation, in the New World, of the so-called colonial staples, has produced effects far surpassing those of all the gold discoveries in the world, from those of Cibao to those of California and Australia. Not only have the looms and the world-wide commerce of Europe, drawn their richest springs of life from the cultivation of cotton and sugar by the slaves of America, but a revolution has been effected by it, in the clothing and food of man everywhere, that has wrought the happiest effects upon his social, moral, and hygienic condition. The humbler classes of the present age would deem it a hardship to be confined to the bacon and beer breakfasts of the

sumptuous Queen Elizabeth, and millions now rejoice in the once highly-esteemed luxury of stockings.

It has become orthodox with modern humanitarians to question the humanity of the theory of Las Casas. If we could have an impartial view of the condition of the great mass of negroes in Africa, of their social and military slavery from the earliest ages, subject to the sway of barbarous native chiefs, it might be found that his argument in favor of the change from a savage to a civilized master, was not so inconclusive as is now supposed; and that the step itself was not so cruel as it has been, and still is painted. But if we doubt the humanity of the social theories of Las Casas, and the humanitarians of the sixteenth century, what verdict may not posterity accord to those of Wilberforce and the humanitarians of the nineteenth century, when it contemplates the results of their social experiments in St. Domingo, Jamaica, and the other islands of the American Archipelago.

The two unmixed races exist in Cuba, under a social organization in which the inferior is subject to the superior race, to the manifest material and moral advantage of both. The material condition of the inferior or slave race, is not that degraded and suffering state of deprivation, which the reasoners upon the abstract question of slavery assume it to be. On

the contrary, the relation of master and slave is one of mutual dependence, and creates ties between them which do not exist in countries where the two races live in a state of civil equality. The feelings of affection incident to an intimate and continued intercourse from the cradle to the grave, are not interfered with or broken by the existence of separate interests. Though the slave is bound to reside with and labor for his master, this does not infer that his whole time and strength is consumed in bringing profit to his owner. It is true the general direction of his labors lies with his master, yet the slave in America is able to devote a much larger portion of his time and strength, to his own individual comfort and pleasure, than is the manufacturing or agricultural laborer, who is not a freeholder, in those communities where slavery does not exist. Not only are his present wants supplied, in return for his labor, but he has no future of age and poverty to provide for, or to fear. His material condition is thus one of comparative happiness, (and all happiness is comparative), and this is further improved by the instigations of interest with his master, and by that friendly sentiment toward all who are dependent upon us, or upon whom we have conferred a favor, which is innate to the human heart. The possession of power, or control by the slaveholder, over the

labor of his slaves, does not make him a tyrant, but rather does it give him a feeling of stronger affinity with them, apart from that of interest, and creates in his breast those friendly ties which every human bosom experiences for its dependents.

The moral condition of the slave is also benefited by his relation with his master. Every individual is brought into an intimate connection with a better society, and example, than is afforded him by his own class exclusively, and the faculty of imitation, which is much stronger in the negro than that of origination, stimulates him to imitate his superior, rather than his equal. At the same time the exercise of the control of a superior intelligence over his social intercourse, and moral deportment, are productive of a state of morals which will compare most favorably with that of the lower classes under a different social organization. A respect for the laws, and for the rights of others is thereby inculcated, and the religious sentiment is developed to a degree never found in the free negro, and seldom in the same relative class in other communities. Pauperism never exists among slaves, and great crimes are much more rare among them than among the lower classes in free States.

It is under this social organization, that Cuba has risen to that condition of material prosperity which

she exhibits to the world, and that is so clearly set forth in the following work of Baron Humboldt. This material prosperity indicates a state of social welfare, as does public decay argue a state of private or individual suffering. Before we proceed to examine the new measures which Spain proposes to introduce into the legislation of Cuba, let us contemplate the condition of those communities, where, under similar circumstances of climate and population, the new social theories have been carried into practice.

Of the social condition of the negro community of Hayti we have few means of judging, and these are offered only by transient visitors. Its government does not attempt to attain any social statistics, and the evidences presented by the material aspects of the country, lead to the most lamentable conjectures as to the actual condition of the inhabitants. It is generally admitted that they have relapsed far toward a state of barbarism, and that the dark practices of *fetish* worship, and heathenism, are rapidly extinguishing there the light of the genial precepts of Christianity.

Jamaica affords us better means for contemplating the results attending the experiment of the civil equality of the black with the white race, where the numbers of the former preponderate, and those, too, of a character that does not admit of doubt. From

"A report of the Central Board of Health of Jamaica," in 1852, printed by order of the Assembly of that island, we make the following extracts:

"Generally speaking, the towns and villages are straggling, and cover a large space of ground in proportion to the number of houses. The streets are often crooked and irregular, * * * for the most part narrow, unpaved, flat or even concave, and without any provision for foot passengers; too frequently they become the receptacle for all sorts of filth and dirt."

—Page 98.

"Yards * * * which after a rain send forth streams of the most horrible description; numbers of dilapidated and falling houses, useless for all habitable purposes, ruined walls and remnants of fences, together with unenclosed sites of pulled-down houses, covered with filth and bush, complete the scene of every old Jamaica township, and the outskirts of the new."—Page 99.

"In villages, and on small settlements, the huts or dwellings of the laborers are composed chiefly of mud walls, sometimes of wattles plastered with the same. * * * In very few cases are they raised off the ground, nor are they floored in any way. * * * Ventilation, or the admission of fresh air, is almost invariably neglected."—Page 100.

"These small, dark, unventilated houses are frequently over-crowded, especially at night; within the small space of a few square feet, perhaps on the bare ground, or may be on a mattress or mat, or in some cases on a bed, with a whole family of eight or nine persons of all ages, and of both sexes, huddled together, with the door and so-called window closed; all clad in the same clothes which they wore through the day, with children sleeping on mattresses often soaked and half rotted with urine and other secretions; should there accidentally be a hole or crevice, this is immediately closed up by means of rags or something of the kind. The rush of odors on opening such a place must be experienced to be understood."—Page 102.

"As regards water for domestic purposes, it is very much to be feared that a large portion of our poor population seldom think of that. Their persons are never abluted save in crossing a river, or being exposed to a heavy shower of rain."—Page 103.

"Among the lower classes, great errors occur in relation to food, both as to quantity, quality, and the period of taking their meals. * * * At night, however, they take what they term their pot; this consists of a sort of soup, composed of salt beef or pork, (if rancid or high, it is preferred), with vegetables of all kinds, highly seasoned, or of salt fish or corned

fish, with plantains, yams, cocos, &c.; of this they partake most freely, literally fulfilling the meaning of the expression, ‘bellyful.’ The meal over, they fall asleep, and as might be expected, are most difficult to arouse.”—Page 106.

“In former times, the lower orders of the laboring population were considered to be very abstemious. There appears, however, to be a tendency to excess among many of them, especially those located in towns; their favorite drinks are those compounds known as Anisettes, and liquors of a similar kind.”—Page 108.

“Among the lower classes the majority not compelled by circumstances to be field-laborers, are too lazy to move; they frequently squat down all day in a sort of sullen apathy; they eat, and drink, and sleep like the brute that perisheth, but all the more active impulses of their human nature appear to be as little excited as if they were totally wanting.”—Page 110.

“It is a well-known fact that all the towns and villages contain a large number of persons who have no ostensible means of earning their livelihood; the way in which they subsist is an enigma to themselves and others. Exposure to the night-air is very prevalent among the lower classes; under various excuses they meet in numbers, frequently in the open air, or under temporary sheds, as at the

performance of wakes over the dead, and also at their revels of john-canoeing, as it is termed, about Christmas time; on these or other occasions of the kind, they give full scope to animal enjoyment; and at the pitch of the excitement of the prevailing passions their gestures and acts resemble more those of demons than of human beings."—Page 111.

"Among the lower classes of the population there is great reason to fear that little or no advance has been made in the better maxims of social life. If a moral feeling exists among them, it is (not?) shown by the calendars of our criminal courts, where the women complain of rape, or attempt to commit rape, and unhappily they occur incessantly."—Page 112.

"Superstitious habits have always been, and will always be, common in a community like this, composed of individuals of so many different races and countries, many of whom openly profess heathenism. The dark practices of Obeah and Myalism have at times effected a vast amount of mischief in this island."—Page 113.¹

"All the efforts of their pastors to eradicate, by moral and religious instructions, the belief in, and the dread of, this remnant of African barbarism, have failed. *The female natives of Haiti, are adepts in the art.*"—Replies of Dr Chamberlaine. Appendix to Report of Central Board of Health of Jamaica, &c.—Page 158.

"Examine the present sanitary condition of the Island. * * * Observe well the fact that the existing laws, meagre as they are, as relates to sanitary matters, are daily broken, and put to open defiance in our very towns and thoroughfares. * * * Correct all this, and then will immigration prove to us a benefit; then will it be a boon to the liberty-crippled American black, a source of temporal and eternal advantage to the African heathen. Till this is done, any further attempt to induce strangers to embark their fortunes here, can be but to disregard the laws of God and man, and by exposing the deceived to destruction; to bring down greater judgments yet upon the authors of their ruin."

—Page 117.

The testimony of Capt. C. B. Hamilton of the royal navy, in 1853, before a committee of the House of Commons, in relation to the condition of that island, is curt and to the point. We present the following extract:

"*Chairman.*—You made use of a phrase some time ago with respect to Jamaica having become a desert. Will you explain to what extent you apply that term?

"*Capt. Hamilton.*—I mean that in going to plantation establishments that had evidently been once

splendid buildings, where there had been a great outlay of capital on a grand scale, you find the roofs tumbling in, the places deserted, nobody in them, grass growing in the rooms, and perhaps rats and snakes in those very rooms, and a deserted, melancholy appearance that certainly goes to one's heart to view.

“*Chairman.*—Is that applicable only to one part, or is it the general character?

“*Capt. Hamilton.*—It is the general character.

“*Mr. Bright.*—That is not the case in Jamaica, but in those particular locations?

“*Capt. Hamilton.*—No; the general character of Jamaica is, that it gives you the impression of a place going to decay. Speaking of the population of Jamaica, I do not refer to the capitalist planters of old times, but of the present population of Jamaica, and their locations and cultivations.

“*Mr. Bright.*—Do you think the term ‘desert’ was quite applicable to the state of things there?

“*Capt. Hamilton.*—I should say peculiarly applicable, without any exaggeration.”¹

To this sad picture we will add but one other extract, the crowning testimony of the present desolate

¹ Report on the Slave Trade, printed by order of the House of Commons, 1853—page 13.

condition, and social degradation of the population of Jamaica. It is from a speech delivered by the Rev. Dr. King, of Glasgow, Scotland, at a large meeting in Kingston, Jamaica, the very scene of his eloquent and vivid description, where every one of his hearers could have contradicted his statements, had they not been in accordance with the facts. They were not contradicted, but were reported by David Turnbull Esq., one of the British champions of the movement for negro emancipation, and printed in London.

"Allusion has been made to the distressed condition of Jamaica, and I am sure that its distress has not been exaggerated. You inhabit a beautiful island. Its climate is so good, that when its advantages for health shall be better known, I think your colony must come to replace Madeira in British estimation, as a desirable retreat for consumptively disposed patients. Your soil is confessed to be generally excellent. The weeds of your public roads are the ornamental plants of our green-houses and hot-houses. Your very wilds are orchards. The grandeur of your mountains is qualified only by the soft charms of their vegetation, and the bounty of nature has transformed your rocky cliffs into hanging-gardens.

"Your isle has a central position in the ocean, as if to receive and to dispense the riches of the earth. You speak one language, and the composition of this meeting shows that a happy harmony subsists among the sections of your community. Such facts as these would lead us to expect prosperity. But instead of prosperity we witness prostration.

"You have peace, fertility, health—all the usual guarantees of national well-being—and yet your leading families are disappearing; your stately mansions are falling into decay; your lovely estates are thrown up; men's hearts are everywhere failing them for fear, as if war, or famine, or pestilence desolated your borders. The existence of such distress is matter of notoriety, but I think it has not been sufficiently pressed upon public attention, and especially on British attention, that religion and education are largely sharing the general calamity.

"But it is too certain that these highest of all interests are suffering. On the north side of the island, and on the south side of the island, numerously attended meetings of missionaries, belonging to different denominations, have been recently held, to deliberate on matters of common interest to them, and all the brethren assembling on these occasions were agreed in the conviction that the secular and

spiritual instruction of the island are, for the most part, in a low and declining condition.

"They were not less united in assigning the temporal distress of the colony as a principal cause of their peculiar difficulties, and discouragements. While churches and societies at home are diminishing the amount of their assistance to missionary institutions here, the inhabitants are disabled, by their sad reverses, from supporting their own ministers and teachers, as they otherwise might ; and persons who have still some means at their disposal, are tempted to plead the badness of the times, as a sufficient apology for restricting their exertions.

"The consequence is, that ministers are returning home ; schoolmasters are returning home ; and the places of those competent and devoted benefactors are left vacant, or filled by others less qualified to succeed them. To what is this lovely island retrograding ? Ye friends of humanity, who have done so much, awake and bestir yourselves, lest all that you have done be undone—lest your work be ruined, and your reward lost ! From the scene of the facts, amid a great assembly perfectly qualified to judge the accuracy of my statements, I tell you that the objects on which you have expended so much money, so much labor, so much time, so much life, are in jeopardy ; and ignorance, irreligion, superstition,

intoxication, profligacy, are hovering, like birds of prey, over your schools and chapels, threatening them with destruction."

Such was the contrast presented to the people of Cuba, between the social condition of the inhabitants of Jamaica and their own, when the new captain-general, the Marquis de Pezuela, arrived at Havana, prepared to carry out the measures which had been pronounced satisfactory by the government of Great Britain. Heedless of the disasters which the enforcement of its vicious and mistaken theories had produced in its own colonies, that government had prosecuted its aims with undiminished energy, as we have shown in our remarks on the political relations of Cuba, and Spain had given a reluctant consent to introduce into the legislation of her colony, measures which had been abhorrent to her, and which endangered not only the connection of Cuba with the crown, but also its social and political existence. A slight effort was made to cover the true tendencies of the new measures, by the manner of their introduction; in the words of Lord Ashton to Señor Fer-

¹ "The Jamaica movement for enforcing the slave-trade treaties &c. Prepared at the request of the Kingston Committee. Printed for gratuitous distribution. Charles Gilpin, London, 1852."—Page 70, *et seq.*

rer, the Spanish minister, "it is by 'units' and not by 'cargoes,' that the process of liberation will take place, so that the proceedings will be much less alarming in their general aspect, or in their individual amount."

Previous to the arrival of General Pezuela at Havana, the discussion of the slavery question had been sedulously prevented there, by the government censorship of the press. He entered upon the government of the island on the 3d of December, 1853, and on the 7th and 8th of the same month the "*Diario de la Marina*," his special organ, contained elaborate articles, in which the former policy of the government was condemned, and the necessity of "progress was urged, and a change insisted upon," although the writer admitted that, "great social phenomena are not suppressed without creating greater embarrassments, or at least equal difficulties with those we aspire to eradicate." The position and new obligations of Spain are thus alluded to in the articles in question :

"A member of the vast community of European nations, and bound to it by a thousand ties of glory and of interest, she could not remain unmoved by the general torrent of thought and idea. With these she has contracted obligations which her honor

and her true interest demand she shall comply with."

As these articles were known to emanate directly from the palace, if not from the pen of General Pezuela himself, their publication caused the greatest excitement among the black, and alarm among the white inhabitants. In a few days they were followed by others, in which the intentions of the government were more openly avowed, and the superiority of free labor to slave labor was asserted and defended. The States of Kentucky and Ohio were cited, where, it was stated, "a single glance at the aspect of the streets of Louisville and Cincinnati, reveals the different, and even opposing genius and tendencies of their economical organization,"¹ and the duty of softening the "necessary transition" was admitted.

In the midst of this general excitement a novel decree relating to the "emancipado" negroes was issued,² which was soon followed by a new code of laws, establishing a system of free labor,³ and this was succeeded by another decree relative to the

¹ Diario de la Marina, 18th December, 1853.

² General Pezuela's official letter to Count Cañongo, 20th December 1853.

³ Ordenanza, 23d December, 1853.

"emancipados."¹ The unnecessary ostentation, and exciting language of all of these official documents, greatly increased the alarm of the white inhabitants. Coincident with these measures, the press announced that what the government "had in view is to make a transition from labor that is entirely compulsory, to the organization of labor under a state of complete freedom;"² and the fact is officially acknowledged in General Pezuela's Circular³ to the local governors and lieutenant-governors of the island. A secret consulting circular, which soon became public, was also issued by the government, announcing its intention to permit the introduction of a large number of free negro apprentices from Africa.⁴

The excitement among the black population of Cuba, but more particularly in the capital, caused by these publications, and the accompanying measures of the government, was intense. Numbers of negroes promenaded the streets of the city, taking the wall from the whites, for the avowed purpose of exhibiting their sense of their expected new civil rights; while others, more bold, sought the promenades and places of public resort, where they asser-

¹ Ordenanza, 1st January, 1854.

² Diario de la Marina, 26th December, 1853.

³ Gobierno y Capitanía General Circular, 23d December, 1853.

⁴ Marquis de Pezuela, Circular, 18th January, 1854.

ted their equality of social position, by saluting the ladies, and paying them compliments in impudent and audible commendations of their beauty. The insolence of the slaves carried alarm into the bosom of every family, and the public consequences were in consonance with the predictions which the Count de Villanueva, and the ayuntamiento of Havana had so truthfully and boldly laid before General Espartero, when regent of Spain, in 1841.

Men prepared for revolution as the only means of self-preservation. Cubans and Spaniards united cordially in this determination, and preparations were made almost openly for the coming event. Some intimation of the occurrences probably came to the knowledge of General Pezuela, for a remonstrance against the new policy, signed by a large number of the most prominent citizens of Havana, was sent to Spain. At the same time he could not be ignorant of the excitement in the public mind, and he endeavored to allay it, by proclamation,¹ continuing at the same time to carry out the previously prepared measures. The decree of 3d May, 1854, directing the registry of the slaves, preparatory "to measures of a more transcendent nature, the approval of which, by her majesty, the queen," was expected, was introduced by a public address,

¹ Proclamation, 3d May, 1854.

denying the existence of any treaty with a foreign nation, "the basis of which is the emancipation of the slaves," and styling the rumors then agitating the public mind, "a chattering and shameful war of letters and lies." The same public address contained the remarkable announcement, that while the government would fulfill its duty, "the inhabitants of Cuba have another duty, not less sacred, to attend to—complying with the laws; it is time for it to make the life of the creole negro more sweet than that of the white, who, under another name, labors to exhaustion in Europe."

This proclamation and decree only tended to increase and confirm the public alarm, and it was further augmented by a knowledge of the succeeding measures of the government. On the 22nd of May, General Pezuela directed the Bishop of Havana to suspend the law of the Church interdicting the marriage of whites with blacks, which was accordingly done by a circular to the officiating priests, dated 29th of that month.¹ At the same time a militia of free blacks and mulattoes was directed to be organized² throughout the island, which was put upon an equal footing, with regard to privilege, with the regular army.

¹ Secretaria del Obispado de la Habana, Circular No. 50.

² Ordenanza, 24th May, 1854.

In conjunction with these measures, the white inhabitants were disarmed, the officers of the government collecting all the arms in possession of private citizens. The popular ferment which followed these measures alarmed General Pezuela, and on the 30th May, he issued his celebrated retracting proclamation, announcing that the government would not interfere with the social institutions of the country, for "that unhappy race which comprehends freedom to be vagrancy, * * * once placed among civilized men, protected by religion, and by the great laws of our fathers, is, in its so-called slavery, a thousand times more happy than other classes in Europe, which have freedom only in name." The press, too, was silenced, and although General Pezuela ceased from that time to initiate the new policy, the public alarm did not subside. The home government, fearing to lose its colony, at a time when its allies were too much engrossed by the difficulties of the war in the East to assist it, removed him, and confided to General Concha, for the second time, the government of Cuba.

The critical circumstances of the colony at this period, induced the court to grant more extraordinary powers to the new captain-general, than had been held by any of his predecessors. The heads of the Treasury and Marine departments, which were for-

merly co-equal with, are now subject to the captain-general; and the authority of all the local organizations has been greatly reduced, so that the governor of Cuba now holds the most completely centralized and irresponsible power in the New World.

General Concha's first care was to endeavor to calm the public mind, and to reassure it of the safety of the existing social institutions. In this he in a great measure succeeded; but as none of the measures instituted by General Peñuela have been rescinded; as the black and mulatto troops have not been disarmed, but have been made a permanent corps of the Spanish army;¹ and as no arms have been returned, or allowed to the white inhabitants, a jealous feeling of insecurity pervades the minds of all reflecting men in Cuba; and the general impression is, that the new policy has only been delayed to be renewed at a more opportune moment. Before contemplating the possible future of the social question in Cuba, we will present a few considerations upon the composition of the two unmixed races.

The black population of Cuba is composed of the negroes born in the island, and a large number which have been imported from the Gold coast, the country around the mouth of the Congo river, and

General Order, 7th August, 1855.

from Mozambique. It is difficult to ascertain its exact numbers, as is shown in the chapter on population in the following work, and there is great diversity in the estimates of different statisticians. Those who regard the smaller number as most reliable, besides committing the error of adopting the statistics of sugar planting for general application to the country, place great reliance upon the disparity in number of the sexes, and from this they assume a necessary decrease of numbers in the total population. In our reflections upon this disparity of the sexes, we have observed two facts which we have never seen presented in any argument upon the question, and which we think have had an important relation to the law of population in Cuba.

The disparity between the sexes has arisen from the nature of the African slave-trade, which has always brought a larger number of males than females; the proportions being, so far as our limited means of information enable us to judge, somewhere between 4 to 1 and 5 to 1. Yet, notwithstanding this disparity of the sexes arriving in Cuba, the proportion of males to females among the negroes there, in 1825, is set down by the accurate Humboldt, as 1 to 1.7; and he recognizes the fact that an improvement in this regard was going on. In fact, among the negroes born in the island no disparity of the sexes

is found ; this must, therefore, be sought among the imported slaves, and its effect upon their numbers ascertained.

The proportion of females imported by the slave traders is, as we have stated somewhere, between 1 to 4 and 1 to 5. We believe we may safely assume the ratio of 175 per 1,000 of all, an equal number being also boys between ten and fourteen years of age. The females imported by the slave traders are, for obvious reasons, very nearly, or quite all, women of the productive age, who have never borne children. This proportion of productive women is very large, as will be seen by the statistics of this country. Dr. Jarvis, in his letters to the Census Office, says, "The females in Massachusetts, between twenty and forty, in 1840, were 163 per 1,000 of all, and in the United States 143 per 1,000."¹ By the census of 1850 the proportion of white females between the same ages was 148 per 1,000 of all ; and the proportion of those between twenty and thirty, which would approximate more nearly to, though still be far from, equalling the class of females imported among the slaves in Cuba, is only 81 per 1,000 of all. It should also be remembered, in seeking for the law of population in Cuba, that the female

¹ Compendium of United States Census, p. 122, *note*.

slaves imported there are under more favorable conditions for reproduction, than even those between twenty and thirty, in the United States, from the fact that, though they are of the productive age, a very small portion of them have ever borne children.

These facts lead us to believe that the conclusions applicable to population in other countries, should be modified in Cuba; and that in their effects may be found, the explanations of the seeming contradictions between the supposed necessary decrease of the slave population, and the position and rapid advance of the island in population and material prosperity. The number of slaves in Cuba we estimate, as will be seen in the chapter on population in the following work, at about six hundred and sixty thousand. Their character in general is that of a very docile and obedient class, and the distinctions of their several native tribes are kept up of their own accord. To this number we have to add about two hundred and twenty thousand free blacks and mulattoes; making a total of eight hundred and eighty thousand Africans and their descendants.

The white, or European race, as we have termed it, numbers nearly five hundred and sixty-five thousand. The official tables of 1846 give the following as the numbers of the foreign born white population. Natives of Spain, 27,264 (exclusive of the army, to

which no Cubans are admitted); Canary Islands, 19,759; other Antilles, 1,361; United States, 1,256; other parts of America, 2,334; France, 2,066; Great Britain, 605; other countries, 842.

The Spaniards are very nearly all office-holders and traders, it being seldom that they purchase land or real estate. Wielding thus the power and ready capital of the country, their political influence is great, while their impress upon the social character of the community is very limited. The natives of the Canary Islands are largely engaged in the minor branches of agriculture, and assimilate readily with the native whites. Many of the French are planters; of the English, a large number are connected with the mining interests. The great majority of the American citizens in Cuba are machinists and mechanics, in which class are also found large numbers of French and British subjects. To this fact we trace the great contrast observed in the state of the mechanic arts in Cuba and in the mother country, and the much greater advance of the former in the adoption of mechanical appliances to labor. The machinists, carpenters, coopers, masons, carriage-makers, smiths, &c., of Cuba, being mostly Americans and French, or such as have learned the trades in their shops, the manner of labor, tools, and style of work in Cuba, resemble ours much more than

they do those of Spain, or of Spanish America, and have given to her civilization a resemblance to that of the Anglo-American, not found elsewhere out of the United States.

This resemblance has been increased by the proximity and frequency of intercourse between the two countries, by an identity of social institutions and aspirations, and by the large number of Cuban youth educated here. It is estimated that for many years very nearly two thousand boys from Cuba have been pursuing their studies in American schools. The ideas and manner of thought with which they return to the island, are more American than Spanish, and these are continually extended by their influence and their example.

Such is the social condition of Cuba, and the influences which bear upon it. In conclusion, we will present a few considerations upon its possible future. We have seen that Spain has declared that when the island ceases to be Spanish, it shall become African, and that there is good reason to believe that in view of the impossibility of holding it many years longer, she has acceded to the solicitations of other European powers, and consented to bring it under the rule of the social theories now prevailing in all the other European colonies in the Antilles. We have seen that the people of Cuba now stand alone in their resistance

to this social revolution and ruin. The advance of the emancipation theories of Europe in the Antilles, and the gradual extinction of the white race there, is unmistakably indicated by the state of the British West Indies. There we see at a glance the true tendencies and results of the application of the social theories of Europe to the communities of America. The details of their history show the sufferings of the whites, and the decline of public prosperity and social welfare; and indicate an ultimate state of barbarism as the social condition of the West India Islands. These truths are acknowledged by very competent authority in Great Britain. One of the leading London journals lately held the following language on this subject.¹

“We have of late, as occasion served, directed the attention of our readers to the condition of the most valuable of our West India possessions, and have endeavored to trace to its true source, in a vicious and mistaken policy, the ruin which not only impends, but has actually fallen upon those islands, once the boast and glory of the British Crown—now the by-word of the commercial nations of the earth. Jamaica, by nature the richest of these dependencies, is reduced to a state of collapse, from which recovery

¹ London Morning Herald, 8th September, 1855.

seems to be hopeless. Efforts have been made to stimulate once more her industry, to raise her crushed proprietary, and to give them once again opportunity and hope. So far those efforts have not been successful. In the recent advices we can perceive no symptoms of amendment; on the contrary, the downward tendency of affairs continues, as if for the unhappy Jamaicans there is a "lower deep" yet yawning, which "threatening, opens to devour," and from whose frightful vortex there seems to be no hope of escape."

* * * * *

"Although the ruin of Jamaica has been more rapid and irresistible than any of the other islands, desolation rests upon the entire Archipelago, and sooner or later will involve them all."

This present desolation of the British Antilles is the dark future which the inhabitants of Cuba are called upon to avert from themselves, and from their children, and which has impelled them to declare to the Spanish government, that the attempt to introduce there the social theories of European philanthropy must produce a bloody revolution, for no white man will be disposed to submit to so hard a fate. This revolution may soon degenerate to a war of races in Cuba, as Spain has declared her

reliance upon the blacks, and other European powers have instigated and sustained her in this declaration. Such a war would arouse the sympathies of the people of the United States in favor of the whites in Cuba, to a pitch of popular excitement that has never been witnessed, and no laws of neutrality or considerations of policy, could prevent their immediate and direct interference and assistance. The result would be the utter annihilation of the black race in Cuba, which might lead to a war of extermination against them in all the larger Antilles. Who can contemplate such a result without shuddering? What philanthropy can advocate a policy which must attain such terrible results!

No public indications at present exist of a disposition on the part of the powers of western Europe, to abandon their attempts to extend over Cuba, the theories which have ruined Jamaica and her sister colonies. Rather do they urge Spain to establish them as the surest means of preventing the advance of the American confederacy in that direction. Thus is the social ruin of a neighboring island, one of the contingents in the conflict between the American and European policies, between republicanism and monarchism; and in the natural course of events Cuba may yet become the Crimea, and Havana the Sebastopol, of the New World.

The European manner of mis-stating that complex combination of questions of American international and civil policy, generally known as the Cuban Question, is thus adroitly and characteristically practised, by one of the British reviews, most zealously liberal, after the manner of European liberalism.

"If then the slave States do gain Cuba, they may possibly gain a loss. If they conquer her they will find her emancipated or desolated; if they purchase her they will buy a colored population more insubordinate than any they have now; and even if these dangers do not realize themselves, an economical result, as Mr. Robertson well explains,¹ may follow, by which the abolitionists may, after all, be the real gainers. Were Cuba once peacefully possessed by enterprising Americans, the cultivation of her soil, and with it the demand for slaves, would be greatly increased, while one great source of supply, the African slave-trade, would be stopped. At the same time the insular population would decrease rather than increase, by reason of the disparity of the sexes; the sole resource, therefore, would be the slave-breeding States of Virginia, North Carolina, and Maryland; and the inducement to them to sell

¹ "A Few Months in America, by James Robertson." London, 1855.

would probably be so great as to draw away their stock, until they became free States—a far greater gain to the North than Cuba would be to the South. Meantime, however, the slave party still desires annexation; it disregards or despises its dangers, or rather it loses sight of them in fear of what may happen, if it does not annex. Here we have the true meaning of the Lone Star Lodges and Ostend Conferences. The Americans try to make the Cuban whites imitate them in casting off their allegiance to the mother country, because they fear that Spain will imitate us in compelling emancipation."—*Westminster Review*, July, 1855. Reprint, p. 97.

This is an adroit and characteristic mis-statement of the Cuban question. Its opening assumption that the northern and southern States of the American Union are opposed to each other in their vital interests, is the artful insinuation of the defenders of European policy, in their opposition to American theories, but it is an error of fact. However great may be the sectional jealousies and irritation, at the present time or in the past (for when have they ceased to exist?), the vital interests of the North and the South are the same. The integrity of the territory of the North, is the integrity of the territory of the South, and when the question of the northeastern

boundary threatened a hostile invasion of the State of Maine, at a time when the waves of sectional feeling ran fierce and high, the South was as ready and as ardent in the determination to defend the national honor, and the national domain, as any other portion of the Union. So too, should any attempt be made upon the integrity of the territory of the South, or of the Pacific States, through our defenceless condition in the mid-American waters, and the Pacific Ocean, no one doubts that the great heart of the North would respond at once, and with enthusiasm, to the call of our common country.

The same intimate sympathy between the North and the South exists in their material interests. Do the seasons prove unpropitious, and the crops of the South fail ; the North feels the common loss in every pulsation of her commercial and fabrile industry. Do the grains and meats of the North and West, cease to come forward with their accustomed plenty ; or do the ships of the East lie idly at the wharves ; the South experiences the consequent languor in every nerve. The glorious memories of our land, too, are linked in sympathetic union ; Lexington and Bunker Hill, Saratoga and Monmouth, Yorktown and Fort Moultrie, New Orleans and Plattsburg, are names equally dear to the North and to the South ;

while the glorious achievements of our common arms in Mexico, show only the most fraternal rivalry to enhance the common glory. The confederacy is, in fact, one mighty whole, and whoever will contemplate it apart from the mists of local politics, will not fail to be impressed with this truth.

The question of the accession of Cuba to the confederacy is not a local question, but stands upon this broad national ground. It is pertinent not only to the South, but to the East, North, and West. Is it a question of national defence? Cuba guards all the approaches south of Charleston to our eastern national frontier. Is it a question of the safety of our domestic intercourse? Cuba guarantees the safety of the routes of commerce between the Ocean and the Gulf of Mexico, and between the Atlantic and Pacific States. The commercial and industrial relations of Cuba to the United States, are also as national as is her geographical position. The lumbermen, the fisheries, and the shipping of New England, have a deep present interest in her welfare, while the wants of her people offer a great natural outlet to the manufacturing industry of the same States, which is now closed to them by artificial barriers.

The miners, machinists, farmers, merchants, and manufacturers of the Middle States, carry on, even now, vast exchanges with her productive industry.

The rice and lumber of the South find their greatest and best foreign market in Cuba. The grain and meats of the West, now in a great measure shut out from Cuba by the restrictions of a jealous tariff, would find in her accession to the confederacy, a market to the value of millions annually from the store of their ever-increasing plenty. Is it a question of civil or of international policy ? The extension of our theories of government to Cuba must contribute to their stability, strengthen the ties of our civil policy, increase its moral power, and augment our weight in the family of nations. The accession of Cuba to the Union is not, therefore, merely a Southern question, but it is a question of national gain and of national power.

The assertion, that "if they conquer her they will find her emancipated or desolated," is the reiteration of the barbarous and savage threat of Spain—that "Cuba shall ever remain Spanish or become African." The heart that can conceive, and the liberalism that can reiterate, such a threat, are only worthy of the highest reprobation. But it involves an error of fact, in assuming that a disposition exists on the part of the United States to conquer Cuba. Such an idea has never been broached in this country, nor do we believe it has ever been entertained by any one. The truth is, that American sympathizers have been

willing to aid the people of Cuba in an effort to conquer the Spanish power there.

European writers, in contemplating the accession of new countries to the American confederation, studiously forget, or avoid the fact, that it is not some powerful king, surrounded by courtiers and privileged classes of nobility, extending his sway over new conquests and subjugated nations; but it is the extension of the right of self-government by the people, and their integrity in the great arena of freedom, guaranteed by the jealous watchfulness of the whole. Should the people of Cuba successfully assert their rights, and seek admission to the American confederacy, there would be no conquest but that of right over might, and of freedom over oppression.

That "they may find her emancipated or desolated," that is to say, African, or a heap of mouldering ashes, is apparently a bold threat; but to our view it is only the ebullition of fear and weakness. We know that neither the liberalism nor the governments of Europe have ever recognized the existence of the people of Cuba as a body politic; but this in no wise affects its vitality, nor the influence which a successful assertion of its rights may have upon itself, or upon its relations to other powers. A people numbering almost six hundred thousand free and

intelligent whites; inhabiting a country whose area is very nearly equal to that of England proper; the productions of whose industry rule many of the most important markets of the world; whose geographical position is one of the most marked upon the globe; and the ratio of whose industrial and social progress is exceeded by only one among existing nations, does not depend, for its being, upon its recognition in European reviews, or in cautiously-written, and guardedly-worded, diplomatic notes. The people of Cuba, by their labor, and the fertility of her soil, have already stamped the fact of their existence in unmistakable characters upon the industrial world, and in the struggle for their rights, and for their very existence, which any attempt to carry out the barbarous threat thus held forth by Spaniards, and by Englishmen, would surely create, the assertion of their rights would have a like effect upon their political relations with other nations.

That if Spain relinquished her forcibly-maintained sovereignty over Cuba, by sale or treaty, to the United States, the confederacy would "buy a colored population more insubordinate than any they now have," is an assertion in regard to the future, which we do not deem justified by the general principles which regulate cause and effect.

In what manner the transfer of a sovereignty from

Spain to a free people, in which the Cubans would be included, would produce such a complete and radical change in the disposition of her servile class, we are not informed, and we cannot conceive. The relation between master and slave is the same in Cuba and in the United States ; and if the European writer draws his conclusion from a supposed savage disposition on the part of the native Africans, now in Cuba, we think he judges them without a personal knowledge of their character, that he forgets two essential points ; that they were not warriors, but mere slaves in Africa, and have never known any other condition ; and that they never have been exposed, by community of language, and facility of access, to the bloodthirsty teachings of European philanthropy.

The economical anticipations of Mr. Robertson and the reviewer may, or may not be realized ; but we can have no great confidence in the anticipations of the political economy of the European philanthropists, while we contemplate the disastrous results which have attended the experiment of their social theories in the British West Indies. On this point we would suggest to them a consideration of the wise observations of Baron Humboldt, addressed to those who anticipated direful results from the cessation of the slave-trade :

"The prognostications which some too lightly make * * * do not seem to me sufficiently conclusive. They do not take into consideration the fact * * * that the increase of the total population of Cuba, when the importation of negroes from Africa shall have ceased entirely, is based upon elements so complicated, upon such various *compensations* of effect upon the white, free colored, and slave population * * * that we should not anticipate such mournful presages, but wait until positive statistical data have been obtained."

That "the Americans try to make the Cuban whites imitate them in casting off their allegiance to the mother country, because they fear that Spain will imitate us in compelling emancipation," is one of those mis-statements characteristic of European writers upon American questions. The desire of the people of Cuba for liberation from European thralldom, is purely and entirely of Cuban origin. It was the natural desire of a people for that freedom which they contemplated in the countries around them, and existed long before they turned their hopes to this country for assistance. The conspiracies that, from 1822 to 1828, threatened the existence of the Spanish power in Cuba, were the spontaneous growth of public feeling, as were those of 1835, under Gen.

Lorenzo, in St. Jago; and of Gen. Lopez, in 1848, in Cienfuegos. The flight of Gen. Lopez and others to the United States, upon the premature discovery of their plans, first induced the patriots of Cuba to look to the people of this country for assistance; and the fact that they have found sympathy and aid here, is the natural result of a community of political aspirations and interests, and of the great American necessity of resistance to the open and covert assaults of European policy, upon our institutions and their influence.

We have alluded to this stereotyped European statement, and argument of the Cuban question, because we consider it aimed, not at the simple question whether Cuba shall remain Spanish or not, but against the extension over new territories of those principles of government, which are so successfully maintained here, and of our political theories, which are viewed with so much dislike by the advocates and defenders of European kingcraft. We deem the question of the future social condition and political relations of Cuba, as not only of pressing and vital importance to herself, but as intimately connected with the peace and progress of our own confederacy, and through that with the ultimate success of the republican theory of government.

The idea that Cuba will some day belong to the

United States, exists solely from a contemplation of moral possibilities, and not from any admission of the fact by the European mind; and the statesmen of Europe are laboring strenuously to prevent its accomplishment. The policy of the British cabinet on this point is strikingly exhibited in Lord Palmerston's assertion, that "if the negro population of Cuba were rendered free, that fact would create a most powerful element of resistance to any scheme for annexing Cuba to the United States." In this he is undoubtedly right. Emancipation in Cuba would blot that country, and its productions, now so important in the commerce of all civilized nations, from the list of wealth-producing communities. It would call into existence, in immediate proximity to our southern shores, a negro community, under the influence of the European idea and policy, which would be dangerous to us as a neighbor, and worse than dangerous to us as a part of this confederacy; or, perhaps, worse still, it might initiate a war of races in Cuba, from a participation in which no power or considerations could prevent our people, and which might prove alike disastrous to the blacks in the Antilles, and to our own domestic repose.

In this question England is arrayed in hostility against us, for the questions of Emancipation and Slavery are the Scylla and Charybdis of our con-

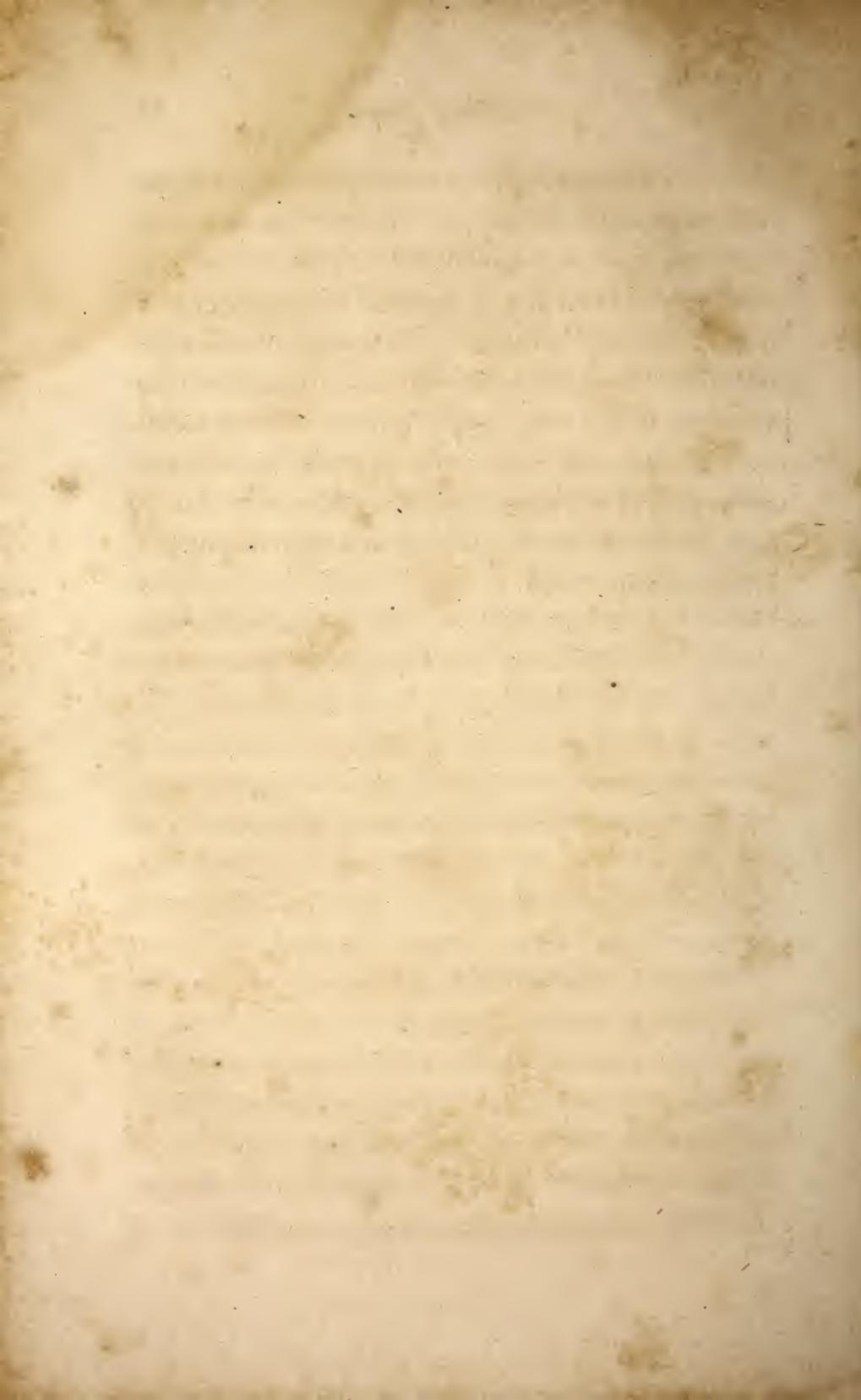
federacy, and if the class government that rules Great Britain can make it a deadly hostility to us, they are forced to do so by the very exigencies of self-preservation. The statesmen of England know, and so do those of America, that the race for life is now being run by the broad and genial republican theories of America, and the limited and partial theories of that simulacro of freedom—European constitutional monarchy. One or the other of these systems must perish. If republicanism triumphs, England must concede the five points to her people, and seek her defence against the autocratic theories of Europe, in a sincere friendship with America. If constitutional monarchy triumphs, and this Union is dismembered, the theory of a democratic representative government will have failed before the world, and the effete theories of Europe will pass safely through the crisis that now attends them, and receive new vigor from the scattered elements that now constitute our vitality and moral power.

It is because the aristocratic classes that govern England are well aware of these truths, and see in them the ultimate extinction of their class-system of government, that Great Britain has never yet taken the stand of true friendship to this country. When impelled by interest, for a feeling of popular sympathy has never impelled her to it, they have

acquiesced in a present seeming friendship. But the retention of the frontier forts after the revolution; the intrigues in Europe against our early commercial treaties; the orders in council; the war of 1812; the treaty of Ghent, and the fishery question at that time; the northeastern boundary; the Oregon question; the efforts against our acquisition of Texas; the intrigues in the war and treaty with Mexico; the South Carolina correspondence; the intrigues in Nicaragua and Dominica against us; the questions of free trade with Canada, and of the rights of our fishermen, afford demonstrations as clear as any in Euclid of the animus that moves them,

The Cuban question is the same disease in its most aggravated and worst form. While Spain, under the instigation of England, and supported by that power and France, is giving life and energy to her hatred and their hostility to us, in the policy she has adopted in Cuba, the British cabinet may well put on the mask of friendship, and assure us, as she has already done on one occasion, that all will be right with her fond ally Spain. And when the evil is done, when the work of hate is consummated, when Cuba has perished before the sirocco breath of European philanthropy, and the seeds of dissension and disunion are sown broadcast through the length and breadth of this great confederacy, then may

England's statesmen weep crocodile tears over our misfortunes, and be sad, in mockery, at our fate. The truth is, that England and France have not a tithe of the fear of a war between this country and Spain, that they have of the extension of our political theories over Cuba, and the triumph of the American theory—that States having different social organizations, can exist and prosper in political union; and of the consequent consolidation of American power on this continent, and of its influence throughout the world.



HUMBOLDT'S CUBA.

CHAPTER I

GENERAL VIEWS.

Political importance of the island of Cuba and port of Havana—Their relations to contiguous countries—Increase of public wealth and revenue—Description of Bay and City of Havana—Public buildings—Streets—Public walks and grounds—Ashes of Columbus—Palms—Vicinity of Havana—Suburbs—Projected moat—Defences of Havana—Population—Increase—Marriages, births, and deaths—Hospitals—Health—Markets—Hospitality—[NOTE.—Establishment of Navy yard at Havana—Don Augustin de Arriola—List of ships built at Havana—Abandonment of the Navy-yard.]

THE political importance of the island of Cuba does not arise solely from its great extent, though it is one half larger than Haiti, nor from the admirable fertility of its soil, nor from its great naval resources,¹ nor from the nature of its population, three-fourths of which are freemen; but it derives a far greater

¹ See Note at the end of the chapter.

political influence through the advantages which result from the geographical position of the city and harbor of Havana.

That northern portion of the sea of the Antilles known as the Gulf of Mexico, forms a circular bay of more than two hundred and fifty leagues diameter, as it were, a Mediterranean with two outlets, whose coasts from Cape Florida to Cape Catoche, in Yucatan, appertain exclusively, at the present time, to the confederations of the Mexican States and of North America. The island of Cuba, or more properly speaking, that part of its shore between Cape San Antonio and the city of Matanzas, situate near the entrance of the old Bahama channel, closes the Gulf of Mexico on the southeast, leaving to the oceanic current we call the Gulf Stream, no other passages than a strait on the south, between Cape San Antonio and Cape Catoche, and the Bahama channel on the north, between Bahia Honda and the reefs of Florida.

Near to the northern outlet, and immediately where a multitude of highways thronging with the commerce of the world cross each other, lies the beautiful port of Havana, strongly defended by nature, and still more strongly fortified by art. Fleets sailing from this port, built in part of the cedar and mahogany of Cuba, may defend the

passages to the American Mediterranean and menace the opposite coasts, as the fleets sailing from Cadiz may hold the dominion of the ocean near the Columns of Hercules. The Gulf of Mexico, and the old and new Bahama channels unite under the meridian of Havana. The opposing flow of their currents, and the violent atmospherical agitations natural there, particularly at the beginning of winter, give a peculiar character to this spot on the northern boundary of the equinoctial zone.

The island of Cuba is not only the largest of the Antilles (being nearly equal to England proper without the principality of Wales), but from its long and narrow form, its great extent of coast makes it at once contiguous with Haiti, Jamaica, Florida (the southern State of the United States), and Yucatan, the eastern State of Mexico. This circumstance is worthy of the most mature consideration, for these countries (Cuba, Jamaica, Haiti, and the southern portions of the United States, from Louisiana to Virginia), distant but a few days' sail from each other, contain nearly two millions eight hundred thousand Africans. As St. Domingo, Florida, and Mexico have been separated from Spain, Cuba does not assimilate politically with the countries it borders, although as they were for many ages subject to the same laws, it has a similarity of religion, language, and customs.

Florida forms the most southern link of that great chain of republics whose northern boundary touches the upper waters of the river St. Lawrence, and which extends from the region of palms to that of the most rigorous winter. The inhabitants of New England believe that the progressive increase of the blacks, the preponderance of the States they inhabit, (the slave States,) and a preference for the culture of the colonial staples, are public dangers. Therefore, they do not wish to cross the Straits of Florida, the present boundary of the great American confederacy, except for the purposes of a free commerce based upon an equality of rights. It is true they fear any event which may throw Cuba into the hands of a more formidable European power than Spain, but undoubtedly they desire no less strongly that the ties which formerly bound Cuba to Louisiana, Pensacola, and St. Augustine, shall remain for ever broken.

The vicinity of Florida has never been of much importance to the trade of Havana, from the sterility of her soil and her want of inhabitants and cultivation. But this is not the case with respect to the coasts of Mexico, which, extending in a semi-circle from the more frequented ports of Tampico, Vera Cruz, and Alvarado to Cape Catoche, almost join through the peninsular of Yucatan to the western portion of Cuba. The illicit trade between Havana and the port of Campeachy is not only very active,

but is increasing, notwithstanding the efforts of the new government of Mexico against it; for of the many vessels engaged in the contraband traffic with Havana, but a small number are engaged in the traffic with the more distant coasts of Caraccas and Colombia. The necessary supplies of salted meats (jerked beef), for the slaves in Cuba, are procured from Buenos Ayres and the plains of Merida more easily, and with less danger in these unquiet times, than from Cumaná, New Barcelona, or Caraccas.

It is well known that Cuba and the Archipelago of the Philippine Islands have for centuries drawn from the treasury of Mexico the sums necessary for their internal administration, and for the preservation of their fortifications, their arsenals and their navy yards. Havana has been the naval port of Mexico, as I have stated in another work,¹ and received annually (until 1808) from its treasury more than one million eight hundred thousand dollars.

¹ "In the present state of affairs, (1803-4), the coast of Mexico is a military dependence of Havana, which is the only neighboring port that affords shelter to squadrons; it is therefore the most important point in the defence of the eastern shores of Mexico. For this reason the government has expended enormous sums in its fortification since its capture by the English. The court of Madrid, fully aware of its own interests, has established the principle that in order to preserve Mexico, the dominion of the island of Cuba must be maintained."—*Humboldt. "Political Essay on New Spain."*

Even in Madrid, for a long time, Cuba and the Philippine Islands were considered as dependencies of Mexico, situated at distances widely apart, east and west from the ports of Vera Cruz and Acapulco, but united to the Mexican metropolis, which was then a European colony, by all the ties of commerce, of mutual assistance, and of ancient affection.

The increase of her own proper wealth has gradually made this assistance from the Mexican treasury unnecessary to Cuba. Of all the Spanish possessions she has been the most prosperous, and the port of Havana has risen, since the disasters of St. Domingo, to the rank of a first-class mart in the commercial world. A happy concurrence of political circumstances, the moderation of the government officials, and the conduct of the inhabitants, who are keen, prudent, and careful of their own interests, have preserved to Havana the continued enjoyment of a free interchange with foreign nations. The revenue from her customs has increased so greatly, that Cuba not only covers her own expenditures, but during the war between Spain and her continental colonies, has contributed large sums to relieve the remnants of the army from Venezuela, for the defence of the castle of San Juan de Ulua, and to the costly and most generally fruitless naval armaments that Spain has fitted out.

I have been twice in Cuba, on one occasion three months, and on the other a month and a half, and have had the good fortune to enjoy the confidence of persons, who from their talents and position, either as proprietors, administrators, or merchants, could give me reliable information regarding the advance of public prosperity. This confidence flowed from the favor with which I was honored by the Spanish ministry, and I trust that I also merited it for the moderation of my principles, my circumspect conduct, and for the pacific character of my occupation. For the last thirty years the Spanish government has not obstructed the publication, even in Havana, of the most interesting statistical tables relative to the state of the commerce, colonial agriculture, and revenue of Cuba. I obtained copies of these documents during my stay there, and the relations I have preserved with America since my return to Europe, have afforded me the complement of the data I had previously collected.

I visited in company with Bonpland only the vicinity of Havana, the beautiful valley of Güines, and the coast between Batabanó and Trinidad. After describing succinctly the physical aspect of the country, and the singular modifications of a climate so different from that of the other Antilles, I shall speak of the general population of the island, its area cal-

culated from the most exact delineation of its shores, its staples of product and commerce, and the condition of its public revenues.

The view of Havana from the entrance to the port is one of the most picturesque and pleasing on the northern equinoctial shores of America. This view, so justly celebrated by travellers of all nations, does not possess the luxury of vegetation that adorned the banks of the Guayaquil, nor the wild majesty of the rocky coasts of Rio Janeiro, two ports in the southern hemisphere; but the beauty that in our climate adorns the scenes of cultivated nature, unites here with the majesty of the vegetable creation, and with the organic vigor that characterizes the torrid zone. The European who experiences this union of pleasing impressions, forgets the danger that menaces him in the midst of the populous cities of the Antilles, and strives to comprehend the different elements of so vast a country, gazing upon the fortresses crowning the rocks east of the port, the opening arm of the sea surrounded with villages and farm-houses, the tall palms, and the city itself half hidden by a forest of spars and sails of shipping.

The entrance to the harbor of Havana passes between the Morro Castle (*castillo de los Santos Reyes*) and the fort of *San Salvador de la Punta*; its width is from 360 to 450 yards which it preserves for three-

fifths of a mile, when, leaving on the north the Castle of *San Carlos de la Cabaña*, and the village of Casa Blanca, it opens into a large trefoil shaped bay, the greatest width of which, from N. N. E. to S. S. W. is two miles and a half. The three smaller bays which open from it are called Guanabacoa, Guasabacoa, and Atares, the latter containing several springs of fresh water.

The city of Havana, surrounded by walls, is built upon a promontory, extending from the Navy-yard on the south, to the Punta fort on the north. In the harbor, beyond the remains of some vessels that have been sunk and the little isle of Luz, there are only eight or ten, or, perhaps, more correctly speaking, five or six fathoms of water. The castles Atares and San Carlos del Principe defend the city on the western side inland, one of them being 1,400 and the other 2,630 yards from the wall of the city. The intermediate space comprises the suburbs of Horcon, Jesus Maria, and Salud, which encroach yearly upon the Campo Marte.

The principal edifices of Havana, the Cathedral, the Government House, the residence of the Commandante of Marine, the Navy-yard, the Post-office, and the Royal Tobacco factory, are less notable for their beauty than for the solidity of their construction. The streets are generally narrow, and many

of them not paved. As the paving stone is brought from Vera Cruz, and its transportation is costly, the singular idea had been entertained, shortly before my arrival, of supplying its place with great trunks of trees, as is done in Germany and Russia, in the construction of dikes across swampy places. This project was speedily abandoned; but travellers who arrived subsequently to the making of the experiment, were surprised to see beautiful trunks of mahogany buried in the ruts of Havana.

During my residence in Spanish America few of the cities presented a more disgusting appearance than did Havana, from the want of a good police. One walked through the mud to the knees, and the many carriages, or *volantes*, which are the characteristic carriages of this city, and the drays laden with boxes of sugar, their drivers rudely elbowing the passer-by, made walking in the streets both vexatious and humiliating.¹ The offensive odor of the salted meat, or *tasajo*, infected many of the houses, and even some of the ill-ventilated streets. It is said the police have remedied these evils, and that

¹ These evils have since that time been in a very great measure remedied, and Havana is now as well paved, and lighted with gas as the best regulated city of America or Europe, while a better police system has removed many of the inconveniences of walking in the streets.

lately there has been a marked improvement in the cleanliness of the streets. The houses are well ventilated, and the street *de los Mercaderes* presents a beautiful view. There, as in many of our older cities in Europe, the adoption of a bad plan when laying out the city can only be slowly remedied.

There are two good promenades; one, the Alameda, inside the walls, between the theatre and the hospice of Paula; and the other outside the walls, running from the Punta fort to the Muralla gate. The first was ornamented with much taste by Peruani, an Italian artist, in 1803; and the second, known as the extra-mural *paseo*, is a delightfully cool resort, and generally after sunset is filled with carriages. Its construction was commenced by the Marquis de la Torre, who, of all the governors sent to Cuba, was the first to give an impulse to the improvement of the police and the municipal regimen of Havana. Don Luis de las Casas, whose memory is also held in high esteem by the inhabitants of Havana, and the Count de Santa Clara, have both improved these grounds.¹

The botanical garden, near *Campo Marte*, is wor-

¹ A third beautiful *paseo*, with gardens, was added to these in 1836, by General Tacon; and subsequent governors have improved the old roads and opened several new ones around Havana; so that its vicinity now affords many delightful drives.

thy of the attention of the government. Since my return to Europe a marble statue of Carlos III. has been erected in the extra-mural *paseo*. Its site had been first selected for a monument to Columbus, whose ashes were brought to Havana on the cession of the Spanish part of St. Domingo to the French. The remains of Hernan Cortés having been carried during the same year (1796) from one church in Mexico to another, there occurred the coincidence of a re-interment at the same time, near the close of the eighteenth century, of the two greatest of the men who were made illustrious by the discovery and conquest of America.¹

¹ "The line-of-battle ship, San Lorenzo, arrived at Havana on the 15th January, 1796, bearing, in a rich coffin, the venerated ashes of Columbus. Generals Las Casas and Araoz and bishops Trespalacios and Peñalver received them on the shore, amid the entire garrison formed for the occasion, and deposited them with solemn ceremonials in their resting-place in the cathedral, in that humble niche where they still repose."—*Pezuela Ensayo Historico de Cuba*, page 354. "The bones of Cortés were secretly removed from the church of San Francisco with the permission of his excellency the archbishop, on the 2d July, 1794, at eight o'clock in the evening, in the carriage of the governor, the Marquis de Sierra Nevada, and were placed in a vault made for this purpose in the church of Jesus of Nazareth. The bones were deposited in a wooden coffin inclosed in one of lead, being the same in which they came from Castilleja de la Cuesta, near Seville. This was placed in another of crystal, with its crossbars and plates of silver, and the remains were shrouded in a

The royal palm, one of the most majestic of its species, give a peculiar character to the country in the neighborhood of Havana. It is the *Oreodoxia regia* in my classification of American palms; its tall trunk, slightly swelling near the middle, is from sixty to eighty feet high; the upper portion being of a fresh, shining green color, forms the union and extension of its pedicles, contrasts with the rest of the trunk, which is of a whitish-brown, and shrunken, forming, as it were, two columns, one supporting the other. The royal palm of Cuba has a beautiful pinnatifid leaf, which shoots upward, and bends only near its point.

The description of this palm reminds me of the *Vadgai* palm, that covers the rocks, and waves its long leaves amid a cloud of spray, at the cataracts of the Orinocco. Those groves of palms that gave me such delight in the vicinity of Havana and Regla are waning year after year, and the low-grounds which I beheld covered with the waving bamboo, are being drained and cultivated. Civilization advances with rapid pace, and I am told that even in those places yet bare of cultivation, there exists but few remains of their former wild abundance.

winding-sheet of cambric, embroidered with gold, with a fringe of black lace four inches deep."—*Prescott's Conquest of Mexico*, vol. III. *Appendix*, p. 469.

From the Punta to San Lazaro, from the Cabaña to Regla, and from thence to Atares, the land is filled with habitations; those which surround the bay being of light and elegant construction. The plan of these houses is drawn, and they are ordered from the United States, as one would order any piece of furniture. When the yellow fever prevails at Havana, the inhabitants retire to these country-houses, and to the hills between Regla and Guanabacoa, where they breathe a purer air. In the cool nights, when the boats crossing the bay leave behind them a long track of phosphorescent light, the inhabitants, who abandon the populous city, find in these rustic abodes a peaceful and enchanting privacy. Travellers who wish to judge truly of the progress of agriculture, should examine the small patches of maize and other alimentary plants, the pine-apples in long files in the fields of the Cruz de Piedra, and the vegetation of the bishop's garden, which has lately been converted into a most delightful place.

The city of Havana proper is surrounded by walls, and is about 1,900 yards long by 1060 yards wide; and yet there are piled in this narrow space 44,000 people, of which 26,000 are blacks and mulattos. A nearly equal population is gathered in the two suburbs, Jesus Maria and Salud; but the latter

does not merit the beautiful name it bears (signifying Health); for, although the temperature of the air is lower than in the city, the streets might have been wider, and better laid out.

The Spanish engineer corps has been for the last thirty years making war upon the inhabitants of the suburbs, complaining to the government that the houses are too near the fortifications, and that an enemy might hold possession of them with impunity. But no one has sufficient firmness to raze the suburbs and eject the inhabitants, of which there are 28,000 in that of Salud alone. This ward has increased largely since the great fire of 1802, for although sheds only were at first erected, these have since been replaced by houses.

The inhabitants of the suburbs have laid many plans before the court by which they might be included within the line of the fortifications of the city, and thus obtain a confirmation of their titles to the land which they have hitherto held only by tacit consent.

Some propose that a wide moat shall be cut from the Chaves bridge, near the shambles, to the San Lazaro shore. The distance is about 2550 yards, and the harbor now terminates at the bridge of Chaves, between the navy-yard and the castle of Atares, in a natural brook, the banks of which are

covered with mangroves and reeds. The city would then have on the west a triple line of fortifications; first, outward, the works of Principe and Atares, built upon hills; then the projected moat; and lastly, the old wall, with its curtain, built by Count Santa Clara, at a cost of seven hundred thousand dollars.

The defence of Havana, on the western side, is of the greatest importance, for while the city proper and the southern side of the bay is held, the Morro and Cabaña castles are impregnable. The first of these requires a garrison of 800 men, and the second 2,000 men for their defence, provisions for which, and reinforcements, should the garrison suffer heavy losses, can be supplied from the city. Several able French engineers have assured me that an enemy should begin by taking the city, and then bombard the Cabaña, which is very strong, but whose garrison, shut up in the casemates, could not long resist the sickly climate. The English took the Morro before they had possession of Havana, but at that time, the Cabaña, which commands the Morro, and fort Number 4, had not been built. The castles of Principe and Atares, and the battery of Santa Clara, are the most important works on the southern and western sides of the city.

Population of Havana, including the suburbs,

Salud, Jesus Maria, Horcon, Cerro, San Lazaro, Jesus del Monte, and Regla, in 1810.¹

	Males.	Females.	Total.
Whites,.....	20,686	20,541	41,227
Free colored,....	11,631	14,348	25,979
Slaves,	15,327	13,581	28,908
Total,	<u>47,644</u>	<u>48,470</u>	<u>96,114</u>

The land and naval forces, the monks and nuns, and foreigners not domiciliated (transient persons), are not included in the census of 1810. The figures of this census have been referred to erroneously in works otherwise worthy of credit, as corresponding to the year 1817. The garrison of Havana is usually six thousand men, and the number of foreigners 20,000, so that the population of Havana, with its seven suburbs, doubtless at the present time (1825) exceeds 130,000 souls. The following table shows the increase of Havana and its suburbs between the years 1791 and 1810:

¹ The same by the official census of 1846:—

	Males.	Females.	Total.
Whites,.....	39,581	30,534	70,115
Free colored,....	13,231	18,027	31,258
Slaves,	14,088	12,022	26,110
Total,	<u>66,900</u>	<u>60,583</u>	<u>127,483</u>

	Whites.	F. Colored.	Slaves.	Total.	Proportions of the three classes
1791	23,737	9,751	10,849	44,337	53—22—25
1810	41,227	25,979	28,908	96,114	43—27—30
Increase,	17,490	16,228	17,059	51,777	

Increase of Whites,	73 }
" F. Colored,	171 } per cent.
" Slaves,	165 }
" all classes,	117 }

We find that the population has more than doubled in the twenty years from 1791 to 1810, in which time the population of New York, the largest city of the United States, has risen from 33,200 souls to 96,400, and at the present time (1825) reaches 140,000, being consequently a little larger than Havana, and nearly equal to Lyons.

We cannot doubt that the great accumulation of unacclimated foreigners in a confined and populous city augments the mortality, and yet notwithstanding the effects of the yellow fever, in the comparison of births and deaths, the results are much less affected by it than are commonly supposed. When the number of blacks imported is not large, and the activity of trade does not bring together at one time a large number of unacclimated sailors, the number of births very nearly equals the number of deaths.

We present here a statement of marriages, births, and deaths in Havana for five years :

	Marriages.	Births.	Deaths
1813	386	3,525	2,948
1814	390	3,470	3,622
1820	525	4,495	4,833
1821	397	4,326	4,466
1824	397	3,566	6,697

This table, which shows great fluctuations from the unequal influx of foreigners, gives a mean proportion of births to the population as 1 to 33.5 ; and of deaths as 1 to 33.2, estimating the total population of Havana and suburbs at 130,000 souls. According to recent exact estimates of the population of France, the proportions there are as 1 to $33\frac{2}{3}$, and 1 to $39\frac{2}{3}$; and for Paris from 1819 to 1823 as 1 to 28, and 1 to 31.6.

The principles upon which these calculations are based, are so modified by circumstances in populous cities, and these are of a nature so complicated and variable, we cannot judge of the number of inhabitants by that of births and deaths. In 1806, when the population of the City of Mexico slightly exceeded 150,000, the number of deaths and births there was respectively 5,166 and 6,155, while in Havana with 130,000 souls, the mean number is 3,900 and 3,880.

There are two hospitals in Havana, the public hospital (San Felipe y Santiago), a charitable institution, and the military hospital (San Ambrosio), in both of which the number of patients is quite large. The following table shows their operations :

	San Ambrosio.			San Felipe y Santiago.		
	1814.	1821.	1824.	1814.	1821.	1824.
No. on 1st Jan'y.	226	307	264	153	251	127
Admitted during						
the year,	4,352	4,829	4,160	1,484	2,596	2,196
Total,	4,578	5,136	4,424	1,637	2,847	2,323
Deaths,	164	225	194	283	743	533
Cured,	4,208	4,623	3,966	1,224	1,948	1,651
Remaining,	206	283	264	130	156	139

The mean of annual deaths in the public hospital is more than 24 per cent., while in the military hospital it is barely 4 per cent. This great difference must not be attributed to the method of treatment employed by the friars of San Juan de Dios, who control the first-named establishment, for though doubtless more yellow fever patients are admitted to the hospital of San Ambrosio, the greater part of the patients received there have slight, and indeed insignificant disorders; while the public hospital on the contrary, admits the aged, the incurable, and blacks who having but a few months to live, are placed there by their owners to rid themselves of care.

As a general thing, it may be supposed that, with the police improvements, the salubrity of Havana has also improved; but the effects of these changes can only be really observed among the native population, for foreigners, who go there from Europe and North America, must suffer from the general influence of the climate, and they will continue to suffer even though the streets were as carefully cleaned as could be desired. The sea-shore has such an influence, that even the natives of the island who reside in the country, far from the coast, are subject to attacks with the yellow fever when they visit Havana.

The markets of the city are well supplied. In 1819 a careful estimate was made of the value of the produce brought daily to Havana by two thousand beasts of burden, and it was found that the consumption of meats maize, yuca, vegetables, rum, milk, eggs, forage, and segars, amounted annually to \$4,480,000.

We passed the months of December, January and February, making observations in the vicinity of Havana, and in the beautiful plain of Güines. We found in the Cuesta family, which, with that of Santa Maria, forms one of the largest commercial houses in America, and in the house of Count O'Reilly, the most noble and generous hospitality. We lodged at

the residence of the first-named, and placed our instruments and our collections of specimens in the palace of the Count, the broad flat roofs of which were exceedingly convenient for our astronomical observations.

[Note.

NAVY-YARD AT HAVANA.

The great advantages which the port of Havana affords for repairing and building ships were apparent at an early period. Its admirable position made it a port of call for all the ships navigating those seas, and it was the place of refit and final departure of the galleons for Spain. But neither the government nor private individuals availed themselves of its abundant timber and naval resources, until about the year 1626, when the king ordered several vessels to be built there for the service of the windward station, of which it was the head-quarters. After these were completed the government built no more vessels there for a long time, although private enterprise continued the business until the king prohibited the cutting of timber except for the purpose of building or repairing of houses in the city.

In 1713 Don Augustin de Arriola went to Madrid, for the purpose of inducing the government to establish a navy-yard at Havana, and proposed to build there ten ships of the line, which should serve as

convoys for the galleons and fleets from Mexico. He urged upon the court that ships built of the hard woods of Cuba, would be much more durable than those built of European timber, and that they would also be preferable, for the reason that the timber would not splinter in battle, and consequently the ships were safer for the crews. His efforts were for a long time unsuccessful, and it was not until about 1723 the present navy-yard was established, and ship-building permanently undertaken. For nearly three-quarters of a century Havana was the great nursery of the Spanish Armada, and from the year 1724 until 1796, the following ships were built there:—

1724	San Juan	ship of the line.	50 guns.
1725	San Lorenzo.....	"	50 "
1726	San Geronimo (á) El Retiro ..	"	50 "
1726	San Antonio (á) El Triunfo	mail ship.	16 "
1727	N.S. de Guadalupe (á) El Fuerte,	ship of the line.	60 "
1727	Santa Barbara (á) la Chata.....	corvette.	22 "
1728	San Dionisio (á) El Constante,	ship of the line.	54 "
1730	El Marte	mail ship.	16 "
	El Jupiter	"	16 "
	Nuestra Señora del Carmen	three-decker.	64 "
1731	Segundo Constante.....	"	60 "
1733	El Africa	"	60 "
1734	La Europa	"	60 "
1735	El Asia	"	62 "
	La Esperanza.....	frigate.	50 "

1735	El Triunfo	corvette.	24 guns.
1736	La America	three-decker.	62 "
1737	La Estrella	corvette.	24 "
738	La Casilla	three-decker.	60 "
	El Dragon.....	"	60 "
1739	La Bizarra	frigate.	50 "
1740	El Invencible.....	three-decker.	70 "
	El Glorioso	"	70 "
1743	La Nueva Espana.....	"	70 "
	El Nuevo Invencible .. .	"	70 "
1745	El Nuevo Conquistador	"	64 "
	Santa Teresa de Jesus	"	64 "
1746	El Nuevo Africa	"	70 "
	El Vencedor	"	70 "
1747	La Flora	corvette.	24 "
	El Tigre.....	three-decker.	70 "
1749	El Fenix	"	80 "
	El Rago	"	80 "
1750	El Infante	"	70 "
	La Galicia	three-decker.	70 "
	La Princesa,.....	"	70 "
1757	El Triunfo	brig.	16 "
1758	Santa Barbara	corvette.	18 "
	El Cazador.....	brig.	18 "
1759	El Astuto.....	three-decker.	60 "
1760	El Volante.....	mail-ship.	18 "
1761	El Fenix	corvette.	22 "
	San Ysidro	schooner.	14 "
	San Genaro	three-decker.	60 "
	San Antonio.....	"	60 "
	San Jose	brig.	14 "
1765	San Carlos.....	three-decker.	80 "

1765	San Julian	schooner.	16 guns
	San Fernando	three-decker.	80 "
1766	San Joaquin	schooner.	16 "
	San Jago	three-decker.	60 "
	San Lorenzo	schooner.	16 "
1767	San Antonio de Padua.....	"	16 "
	Santa Clara	"	10 "
	Santa Ysabol	"	10 "
	San Luis.....	three-decker.	80 "
	Santa Rosalia	schooner.	16 "
1768	San Francisco de Paula.....	mail-ship.	18 "
1769	San Francisco de Paula.....	three-decker.	70 "
	La Santissima Trinidadada.....	ship of the line.	112 "
	San José.....	schooner.	12 "
1769	San José.....	ship of the line.	70 "
1770	Nuestra Señora de Loreto	schooner.	12 "
	Santa Lucia	corvette.	26 "
	El Cayman.....	xebec <i>frigate</i> .	30 "
1771	San Rafael.....	ship of the line.	70 "
	San Pedro Alcantara.....	"	62 "
1772	San Juan Bantista.....	brig.	12 "
	San Francisco Xavier	"	12 "
	Santa Elena	schooner.	
	San Carlos.....	mail-ship.	18 "
1773	San Miguel	ship of the line.	70 "
1775	San Roman	ship of the line.	60 "
	San Julian.....	dredging lighter.	
	San Salvador de Orta.....	"	
1776	Santa Agueda	frigate.	46 "
	Santa Catalina Martir	brig.	10 "
1777	Santa Cecilia	frigate.	46 "
1778	Santa Matilda.....	"	46 "

1778	Santa Teresa	schooner.	12 guns
	Nuestra Señora de la O.	frigate.	40 "
1780	Santa Clara.	"	40 "
	El Bahama	ship of the line.	70 "
	El Viento	schooner.	14 "
1781	La B—(illegible on record).	"	
1782	Borja.	mail-ship.	14 "
	San Pedro.	receiving-ship.	
	San Pablo.	"	
1786	El Mejicano.	ship of the line.	114 "
	Conde de Regla	"	114 "
	La Guadalupe.	frigate.	40 "
1787	Real Carlos	ship of the line.	114 "
	La Catalina.	frigate.	44 "
1788	San Pedro Alcántara.	ship of the line.	64 "
	Nuestra Señora de la Merced	frigate.	40 "
1789	San Hermenegildo	ship of the line.	120 "
	Atocha	frigate.	40 "
	San Geronimo.	ship of the line.	64 "
1790	El Volador	brig.	18 "
	El Soberano.	ship of the line.	74 "
	Minerva	frigate.	44 "
	Saeta.	brig.	18 "
1791	Dredging ship. . . No 1.		
	"	" 2.	
	4 Dredging lighters	" 1, 2, 3, and 4.	
	El Infante Don Pelayo	ship of the line.	74 "
	La Ceres.	frigate.	40 "
1792	La Gloria.	" "	44 "
1793	El Principe de Asturias.	ship of the line.	120 "
1794	San Antonio.	brig.	18 "
1796	La Anfitrite	frigate.	44 "

Forming a total of

Ships of the line	51	3642
Frigates.....	16	684
Corvettes.....	7	160
Mail-ships	7	116
Brigs	9	136
Schooners	14	164
Receiving ships	2	
Dredging “	2	
“ lighters	6	
	<hr/> 114	<hr/> 4902

A few years since, the labors at the navy-yard of Havana were resumed; a machine shop was established, and a steamer, a sloop of war, and several smaller vessels were built; but they were again suspended by a royal decree, and the fixed machinery and ship-timber were taken to Cadiz. Vessels of the station are now only repaired here. The reason assigned for this is that ship-building in Cuba deprives the labor of the mother country of employment.]

CHAPTER II.

PHYSICAL ASPECT.

Figure of the island but lately known—Area according to Lindeneau and Ferrer—According to Bauzá—According to “Cuadro Estadístico”—Comparative area—Length and width—Importance of Batabanó—Comparative territorial power—Geological character—Mountains—Face of the country—Elevation—Noted hills—Eastern portion—Gold-washing—Formation of western and central portion—Güines—Soil—Hills of San Juan—Caverns—Modern formation—Shore at Havana—Roaring banks explained—Relative age of strata—Fresh water on the cays—Origin—Vicinity of Havana—Guanabacoa—Serpentine—Petroleum—Botany of Guanabacoa—Mineral springs—Reflections on geology—Earthquakes—Fertile lands—Beauty of vegetation—Soils, how distinguished—Rivers—Springs—Lands near Havana. [NOTE.—Imperfect state of geological knowledge in Cuba—Known metal and mineral productions—Coal analyzed—Celebrated mineral springs—Analysis of tobacco lands in the Vuelta de Abajo.]

As the shores of the island of Cuba are covered with cays and reefs through more than two-thirds of their extent, and the navigable channels lie outside of these obstructions, the true figure of the island was for a long time unknown. Its width,

particularly between Havana and Batabanó, has been exaggerated, and it is only since the Hydrographic bureau at Madrid, the best establishment of its kind in Europe, has published the labors of Capt. José del Rio and Lieut. Ventura Barcaiztegui, that its area has been calculated with any degree of accuracy. The figure of the Isle of Pines, and of the southern coast between the port of Casilda and Cape Cruz (inside of the Doce leguas cays), has been laid down very differently in our several maps.

Lindeneau, in view of the publications of the Bureau previous to 1807, had stated the area of Cuba, without the neighboring small islands, to be 2,255 square geographical leagues (fifteen to a degree), and 2,318 with the islands that surround it, which is equivalent to 4,102 square maritime leagues of twenty to the degree. Señor Ferrer, with somewhat different data, does not make it exceed 3,848 square maritime leagues.

In order to give in this work the most exact results possible in the present state of astronomical observations there, I have induced Señor Bauzá, who honors me with his friendship, and whose name has become celebrated through his great and valuable labors, to calculate the area in accordance with the new map of the island on four sheets, which he will soon complete. This learned geographer has acced-

ed to my request, and found (in June, 1825), the superficial area of Cuba, without the Isle of Pines, to be 3,520 square maritime leagues, and 3,618 with that island.¹

By this calculation, which has been twice made, it appears that the Island of Cuba is one-seventh smaller than has been hitherto supposed; that it is one-third larger than St. Domingo, and only one-eighth smaller than England exclusive of Wales. If the entire archipelago of the Antilles possesses an area equal to one-half that of Spain, Cuba alone nearly equals in superficial extent all the other Greater and Lesser Antilles together. Its greatest length from Cape San Antonio to Cape Maysi (on a line running from W. S. W. to E. N. E., and then from W. N. W. to E. S. E., through the island,) is 227 leagues. Its greatest width, from Maternillo point to the mouth of the river Magdalena, near Tarquino peak (from

¹ The official "Quadro Estadistico" of 1846 states the area as follows:

Cuba	34,293	square mi es.
Isle of Pines.....	810	" "
Small islands adjacent	970	" "
		36,018 square miles.

Which exceeds Señor Bauzá's calculation for Cuba by 2,553 square miles, and is five times greater than Massachusetts, and more than one-half the area of all the New England states.

N. to S.), is 37 leagues. The mean width of the island between Havana and Puerto Principe, being about four-fifths of its length, is 15 leagues.

In the most cultivated part, between Havana and Batabanó, the island is only $8\frac{1}{2}$ leagues across. This proximity of the northern and southern shores at this point makes the port of Batabanó of great importance both for commerce and for military defence. Among the great islands of the globe, that of Java, from its shape and area (4,170 square leagues), most resembles Cuba. The coast-line of Cuba extends 520 leagues, of which 280 correspond to the southern shore between Cape San Antonio and Cape Maysi.¹

That the territorial power of Cuba, as comparing with the rest of the Antilles, may be better seen, we present the following table:—

	Extent in sq. leagues.	Population.	Pop. to sq. league.
Cuba according to Bauzá,	3,615	715,000	197
Haiti " Lindeneau,	2,450	820,000	334
Jamaica,	460	402,000	874
Puerto Rico,	322	225,000	691
Great Antilles,	6,847	2,147,000	313
Lesser Antilles,	940	696,000	740
Whole Archipelago,	7,787	2,843,000	365

¹ The “Cuadro Estadístico” of 1846 states the shore-line at 573 leagues, of which 301 correspond to the south, and 272 to the north coast.

More than four-fifths of the land of Cuba is low and its surface covered with secondary and tertiary formations, through which granitic-gneis, syenite, and euphotide rocks have protruded.

At present we have no very exact idea of the geognostic character of the country, nor of the relative age or nature of its soils. We only know that the highest group of mountains is in the extreme southeastern portion of the island, between Cape Cruz, Cape Maysi and Holguin. The ridge known as the *Sierra del Cobre*, situate northwest of the city of St. Jago de Cuba, is said to be more than 7,600 feet high.¹ According to this supposition, the hills of this ridge are higher than the Blue Mountains of Jamaica, and the peaks of Banquillo, and Banaste of St. Domingo. The *Sierra de Tarquino*, fifty miles west of the city of St. Jago, belongs to the same group with the *Sierra del Cobre*.

A chain of hills runs through the island from E.S.E. to N.N.W., approaching the southern coast

¹ The *Sierra del Cobre* is supposed by some travellers to be visible from the shore of Jamaica, but most probably it is from the northern slope of the Blue Mountains. In the first case, its height would exceed ten thousand feet, supposing a refraction of one-twelfth. Certain it is, that the mountains of Jamaica are visible from the summit of the hills of Tarquino.—*Patriota Americana*, Vol. ii. p. 282.—H.

between Puerto Principe and Trinidad; while more to the west, toward Alvarez and Matanzas, the sierras of Gavilan, Camarioca, and Madruga approach the northern shore. While travelling from the mouth of the river Guaurabo to Trinidad, I saw the hills of San Juan, which form peaks more than 1,900 feet high, whose slopes incline with great regularity to the south. This calcareous group is seen very clearly from Cay de Piedras. The coasts of Jagua and Batabanó are very low, and I believe there is no hill exceeding 1,275 feet in height, except the Pan of Guajaibon, west of the meridian of Matanzas.

The face of the interior of the island is gently undulating, like that of England, and is not more than 280 to 380 feet above the level of the sea.¹ The objects seen at the greatest distance, and best known to navigators, are the "Pan of Matanzas,"² which is a truncated cone like a small monument in shape; the "Arcos de Canasí," which are seen between Puerto Escondido and Jaruco, like small segments of a circle; the "Table land of Mariel,"

¹The village of Ubajay, about fifteen miles distant from Havana, S. 25° W., is 242 feet above the sea. The summit line of Bejucal, at the Taverna del Rey, is 305.7 feet.—H.

²1,255 feet high. At sea I have found the "Arcos de Canasí" to be 732 feet high.—H.

the "Maiden's Paps," and the "Pan de Guajaibon."¹ This level of the limestone formation of Cuba, declining toward the northwest, indicates the submarine union of these rocks with the similar low lands of the Bahama Islands, Florida, and Yucatan.

As observation has been limited to Havana and its immediate neighborhood, we should not be surprised at the profound ignorance displayed in relation to the geognosy of the Sierra del Cobre. Don Francisco Ramirez, a traveller, who had been a pupil of Proust, and was well versed in the chemical and mineralogical sciences, informed me that the western part of the island is granitic, and that he had found there gneiss and primitive slate. From these granitic formations have probably arisen the alluvial sands mixed with gold which were worked with so much zeal during the early years of the conquest, to the great misfortune of the natives, and vestiges of them are still found in the rivers of Holguin and Escambray; these alluvial sands are found generally in the vicinity of Villa Clara, Santi Espiritu, Puerto Principe, Bayamo, and the Bay of

¹ 2484 feet high. Further west, on the northern coast, we have the "Sierra de los Organos," and "Sierra de Rosario," and on the southern coast, the "Sierra de Rio Puerco."—H.

Nipe.¹ Perhaps the abundance of copper spoken of by the *conquistadores* of the sixteenth century, at which time the Spaniards observed the natural productions of America better than they did in subsequent ages, is due to the formations of hornblende slate, and slate *de transition*, mixed with diorite and euphotide rocks analogous to those I found in the hills at Guanabacoa.

The central and western parts of the island contain two formations of compact limestone; one with sandy clay, and the other with gypsum. The first of these presents (I will not say from its relative age, or its superposition, which I do not know, but from its composition and appearance) some similarity with the formation of the Jura. It is white or of a light yellow ochre color, brittle, sometimes conchoidal

¹ This supposition of ancient riches is not unlikely, and if we wonder at the small product of the gold washings in our days in Cuba and St. Domingo, at the same places where, in former times, considerable sums were found, we should remember that in Brazil, the yield of the gold washings has fallen from 6,600 kilogrammes to less than 595, between the years 1760 and 1820. The lumps of gold, several pounds in weight, which have been found in our days, in Florida and the two Carolinas, demonstrate the primitive richness of the entire valley of the Antilles, between the island of Cuba and the Appalachian chain; but it is natural that the yield of the gold washings should diminish with much greater rapidity than that of the working of subterraneous veins.—H.

and sometimes smooth, and lies in very thin layers with nodules of pyrogenous silex, often hollow (Rio Canimar, two leagues east of Matanzas), and petrifications of pecten, cardites, terrebratules, and madrepores, which are not so much dispersed through the mass as gathered in banks. I found no layers of petrified oolites, but there were porous and almost hollow strata, between the potrero of Count de Mopox and the port of Batabanó, similar to the spongy strata presented by the jurassic limestone at Franconia, near Dondorf, Pegnitz, and Tumbach. Yellow cavernous strata, with holes, from three to four inches diameter, alternate with others, entirely compact and less abundant in petrifications.¹

The chain of hills which bounds the valley of Güines upon the north, uniting with the hills of Camoa and the "Tetas de Managua," appertain to the second variety, which is of a reddish white color, and almost lithographic, like the jurassic limestone at Papenheim. The compact and the cavernous strata contain brown, ochreous veins of iron, and perhaps the red soil so esteemed by the coffee planters, arises from the decomposition of some of these superficial

¹ As the western portion of the island has no deep fissures, this alternation is observed while travelling from Havana to Batabanó; the deeper strata crop out with an inclination of 30° to 40° N.E. as one advances.—H.

layers of oxidized iron, mixed with silica and clay, or with a red sandy marl lying upon the limestone.¹ All this formation I shall call Güines limestone, to distinguish it from another much more modern formation in the hills of San Juan, near Trinidad; whose peaks remind me of the limestone mountains of Caripe, in the vicinity of Cumaná. It contains also great caverns near Matanzas and Jaruco. I have not learned that any fossil bones have been found in them. This frequency of caverns, in which the rains accumulate and the brooks disappear, sometimes causes great disasters.² I believe the gypsum of Cuba is not found in the tertiary, but in the secondary formations. It is worked in many places east of Matanzas, at San Antonio de los Baños, where it contains sulphur, and in the cays off San Juan de los Remedios.

We should not confound with this Güines (jurassic) limestone, sometimes porous and sometimes compact, another formation, so modern, that we may believe it still grows in our own time. I speak of the conglomerate limestone which I have observed in the cays or small islands lining the coast between Batabanó and the Bay of Jagua, south of the Zapata swamp,

¹ Sand and iron-sand.—H.

² As in the case of the ruin of the old tobacco mills of the royal monopoly.—H.

principally on Cay Bonito, Cay Flamenco, and Cay de Piedras. By the soundings, we know that these are rocks rising precipitously twenty or thirty fathoms from the bottom. Some are level with the sea, and others rise from one and a half to two feet above the surface. Sharp fragments of white coral and shells (*cellularia*), two or three cubic inches in size and cemented with grains of quartz-sand, are there found. All the inequalities of these rocks are covered with made earth, in which, with a lens, we can distinguish nothing but detritus of shells and coral. This tertiary formation corresponds, without a doubt, to that of the coasts of Cumaná, Carthagena, and the Gran Terre de la Guadalupe, of which I have spoken in my geognostic view of South America.

Messieurs Chamisso and Guaimard have lately thrown much light upon the formation of the coral islands of the southern seas. While we see at Havana, at the foot of the Punta fort, upon the shore of cavernous rocks,¹ covered with verdant

¹ The surface of these shores, blackened and worn by the waves, presents conical ramifications such as are found in lava currents. The change of color caused by the waters is the effect of manganese, the presence of which is known from the detritus. As the sea enters the fissures of the rock and a cavern at the base of the Morro Castle, it compresses the air and forces it out with an extraordinary noise, which explains the phenomenon of the roaring banks so well known

ulves and living polipfers, large masses of madreporé, and other lithophite corals, enclosed in the texture of the rock, there is reason to admit that all this limestone rock of which the island of Cuba is in great part composed, is the effect of an uninterrupted operation of nature through the action of organic productive forces and partial destruction, and which continues in our time in the bosom of the ocean. But this appearance of recent formation soon disappears, when we leave the shore, or when we remember the series of coral rocks which the formations of different epochs enclose, the muschelkalk, the limestone of the Jura, and the *calcaire grossier* of Paris.

The same coral rocks of the Punta castle are found in the highest mountains in the interior of the country, accompanied by petrifications of bivalve shells, very different from those which at present exist on the shores of the Antilles. Without wishing to assign with certainty to the limestone formation of Güines a determinate place in the scale of formations, I entertain no doubt as to the relative antiquity of this rock with the conglomerate limestone of the cays, situate south of Batabanó, and east of the Isle of Pines. The globe has experienced great revolutions between the epochs of these two formations, to navigators between Jamaica and San Juan de Nicaragua, and near the Island of St. Andrew.—H.

one of which contains the great caverns of Matanzas and the other is daily augmented by the accumulation of fragments of coral and quartz sand. The latter of these formations seems to rest on the south part of Cuba, sometimes on the Güines (jurassic) limestone, as in the Jardinillos, and at others (toward Cape Cruz) immediately upon the primitive rock. In the Lesser Antilles the coral has covered the volcanic products.

Many of the cays of Cuba contain fresh water, and I have found excellent water in the centre of Cay de Piedras. When we remember how extremely small these islands are, we can hardly believe that those ponds of fresh water are rain water that has not evaporated. Perhaps they arise from a submarine communication between the limestone formation of the shore, and that which has served as a base for the collection of the lithophites: so that the fresh water of Cuba rises by hydrostatic pressure through the coral rock of the cays, as is the case in the bay of Jagua, where fountains spring forth in the salt water, and are the resort of the Manatí.

East of Havana the secondary formations are traversed by Syenite and Euphotide rocks, grouped in a singular manner. The southern side of the bay, as well as the northern (the hills of the Morro and Cabaña), are of jurassic limestone; but on the east-

ern side of the two arms—Guanabacoa and Guasabacoa, the entire formation is *de transition*. Passing southward, we find syenite near Marimelena, composed in a large degree of hornblende, and in part decomposed with a little quartz, and a reddish white feldspar, which is sometimes crystallized. This beautiful syenite, whose masses incline to the northwest, alternates twice with serpentine, and the intercalated strata of this stone is seventeen or eighteen feet thick.

Further south toward Regla and Guanabacoa, there is no syenite, and the entire surface is covered with serpentine, in hills from 200 to 250 feet high, running from east to west. This rock is much fissured, its exterior being of a bluish brown color, covered with detritus of manganese, and the interior of leek or asparagus green traversed by small veins of asbestos. It contains neither granite nor hornblende, but metallized diallage is disseminated through the mass. The serpentine breaks sometimes in leaves, sometimes in scales, and this was the first instance of my finding metallized diallage within the tropics. Many of the pieces of serpentine have magnetic poles, and others have a texture so homogeneous, and so firm a polish, that from a distance they may be mistaken for pitchstone, (pechstein). It is desirable that these beautiful masses should be used in the arts as is done in many places in Germany.

Approaching Guanabacoa, the serpentine is found traversed by veins twelve or fourteen inches thick, filled with fibrous quartz, amethyst, and rich mammilated stalactiform chalcedony; perhaps chrysoprase will some day be found with them. Among these veins some copperish pyrites appear, which are said to be mixed with an argentiferous grey copper ore. I found no vestiges of this grey copper ore, and it is probably metallized diallage, which, for ages have given the hills of Guanabacoa the reputation of containing much gold and silver. Petroleum exudes in some places through the fissures in the serpentine.¹ Springs are frequent

¹ Are there in the bay of Havana other petroleum springs than those of Guanabacoa, or should we suppose that the liquid *betun*, used by Sebastian Ocampo, in 1508, when he careened his vessels here, have become dry? It was this that attracted the attention of Ocampo to the port of Havana, when he gave it the name of "Puerto de Carenas." It is said that abundant petroleum springs have been found in the eastern part of the island, between Holguin and Mayari, and on the shores of St. Jago de Cuba. A small island, Signapa, has recently been found, near Point Hicacos, which presents to the eye solid, terreous petroleum only; this mass recalls to the mind the asphaltum of Valorbe, in the limestone of the Jura. Does the serpentine formation of the Guanabacoa recur in the Ruby hill, near Bahia Honda? The hills of Regla and Guanabacoa present to the botanist, at the feet of royal palms, *Xatrofa panduraefolia*; *X. integerrima* Jacq.; *X. fragrans*; *Petiveria alliacia*; *Pisonia loranthoides*; *Lantana involucrata*; *Russelia*

there, the water of which contains a little sulphureted hydrogen and deposits oxide of iron. The baths of Bareto are very agreeable, but their temperature is very nearly that of the atmosphere. The geognostic constitution of that group of serpentine is worthy of particular attention from its isolation, its veins, its connection with the syenite, and its elevation through formations filled with petrified shells.

A feldspar, with base of soda (compact feldspar), forms, with diallage, the euphotide and serpentine rocks; with hypersthene it forms hypersthenite; with hornblende, diorite; with augite, dolerite and basalt; and with granite, eclogite. These five rocks dispersed throughout the globe, charged with oxidized iron and mixed with sphene, have in all probability a similar origin. In the euphotides two formations are easily distinguishable; one wanting hornblende, even when it alternates with hornblende rocks (Joria in Piedmont, Regla in Cuba), and abounding in pure serpentine, metallized diallage, and sometimes jasper (Tuscany, Saxony); and the other heavily charged

sarmentosa; *Ehretia havanensis*; *Cordia globosa*; *Convolvulus pinnatifidus*; *C. calycinus*; *Bignonia lepidota*; *Lagascea mollis* Car.; *Malpighia cubensis*; *Triopterus lucida*; *Zanthoxylum*; *Pterota*; *Myrtus tuberculata*; *Mariscus havanensis*; *Andropogon avenaceus* Schrad.; *Olyra latifolia*; *Chloris cruciata*; and a large number of *Banisteria*, whose gilded flowers adorn the scene.—See our *Florula Cubæ insulæ*, in the *Nov. Genera Spec.*—H.

with hornblende often giving way to diorite, without jasper, in layers, and sometimes containing rich veins of copper (Silesia, Mussinet in Piedmont, Pyrenees, Parapara in Venezuela, Copper mountains of Western America). This last-named formation of the euphotides is that which, from its mixture with diorite, blends with hypersthene, in which, in Scotland and Norway, strata of true serpentine is sometimes found. No volcanic rocks of a more recent epoch, as, for example, trachytes, solerite, and basalt, have been discovered in the island of Cuba; and I am not aware if there are any in the other Great Antilles, whose geognostic constitution differs essentially from that of the series of limestone and volcanic islands, that extends from the island of Trinidad to the Virgin Isles.

Earthquakes are much less disastrous in Cuba than in Puerto Rico and Haiti, and are experienced most in the eastern part between Cape Maysi, St. Jago de Cuba, and Puerto Principe. Perhaps there extends toward those regions some lateral action from the great fissure which is believed to extend across the granitic tongue of land between Port au Prince and Cape Tiburon (in St. Domingo), in which entire mountains were sunk in 1770.¹ The cavern-

¹ Dupaquet, in the "Diario de Minas," vol. I. p. 58, and Leopold de Buch, Phy. Beschr. der Canar. Inseln., 1825, p. 403.—H.

ous texture of the limestone formations which I have just described, the great inclination of its strata, the small width of the island, the frequent absence of trees in the plains, and the proximity of the mountains, where they form an elevated chain near the southern coast, may be considered as the principal causes of the want of rivers, and of the absence of moisture which are experienced, particularly in the western part of Cuba. In this respect Haiti, Jamaica, and many other of the Lesser Antilles which have volcanic peaks covered with woods, are much more gifted by nature.

The lands most celebrated for their fertility are those of the districts of Jagua, Trinidad, and Mariel. The valley of Güines owes its reputation in this respect entirely to its artificial irrigation by means of canals. Notwithstanding the absence of deep rivers and the unequal fertility of the soil, the island of Cuba presents on every hand a most varied and agreeable country from its undulating character, its ever-springing verdure, and the variety of its vegetable formations. Two kinds of trees with large flexible and shining leaves, five species of palms (the Royal palm, or *Oreodoxia regia*, the *Coco comun*, the *Coco crispa*, the *Coripha miraguama*, and the *C. maritima*), and small bushes, ever laden with flowers, adorn the hills and vales. The *Cecropia peltata*

marks the humid places, and we might believe that the entire island was originally a forest of palms and wild lime, and orange trees. These last, which have a small fruit, are probably anterior to the arrival of the Europeans,¹ who carried there the *agrumi* of the gardens, which rarely exceed ten or fifteen feet in height.

The lime and the orange do not usually grow together, and when the new settlers clear the land they distinguish the quality of the soil according as it bears one or other of these social plants; and the soil that bears the orange is preferred to that which produces the small lime. In a country where the operations of the sugar plantations have not been so well perfected that they need no other fuel than the *bagass*, this progressive destruction of the small clumps of wood is a real calamity. The arid nature of the soil is increased in proportion as it is stripped of the trees which serve to shield it from the hot rays of the sun, and whose leaves radiating their caloric

¹ The well-informed inhabitants state, with pride, that the cultivated orange brought from Asia preserves its size and all the properties of its fruit when it becomes wild. (This also is the opinion of Señor Gallesio.—“Traité du Citrus,” p. 32). The Brazilians do not doubt that the small bitter orange, which bears the name of *naranjo do terra*, and is found wild far from the habitations, is of American origin.—*Caldcleugh's Travels in South America*, vol. I. p. 25.—H.

against an ever clear sky, cause a precipitation of the watery vapor from the cooled air.

Among the few rivers worthy of notice, we may cite that of Güines, the waters of which it was intended, in 1798, to turn into the canal for light draught navigation, that was to have crossed the island under the meridian of Batabanó; the Almendares or Chorrera, whose waters are carried to Havana by the *zanja de Antonelli*; the Cauto, north of the city of Bayamo; the Maximo, which rises east of Puerto Principe; the Sagua la Grande, near Villa Clara; the Palmas, which empties into the sea opposite to Cay Galindo; the smaller rivers of Jaruco and Santa Cruz, between Guanabo and Matanzas, which are navigable for some miles from their mouths, and facilitate the embarkation of sugar; the San Antonio, which, like many others, disappears in the caverns of the limestone rock; the Guaurabo, west of the port of Trinidad; and the Galafre, in the fertile Filipinas district, emptying into the Bay of Cortés.

The southern side of the island is most abundant in springs, where, from Jagua to Point Sabina, a distance of forty-six leagues, the country is a continuous swamp. The abundance of water that filtrates through the fissures of the stratified rock is so great, that from the hydrostatic pressure, springs are found in the sea at some distance from the coast.

The lands in the district of Havana are not the most fertile, and the few sugar plantations that were near the capital have been turned into grazing farms, and fields of corn and forage, the demand for the city making them very profitable. Agriculturists in Cuba recognize two classes of land which are often found intermixed like the squares of a chess-board ; the black or brown soil, which is argillaceous, and highly charged with sooty exhalations, and the red land, which is a strong soil and mixed with oxide of iron. Although the black land is generally preferred for the cultivation of the sugar cane, because it preserves its moisture better, and the red land for the coffee tree, yet many sugar plantations have been made in the red lands.

[NOTE. The geology of Cuba is still very imperfectly known, no systematic examination of its surface having been made, and the board appointed to compile the "Cuadro Estadistico" of 1846 stated, that in regard to this portion of their labors they could do little more than reproduce the remarks accompanying the "Cuadro" of 1827. Besides the observations of Baron Humboldt, Don Francisco Ramirez, and Don Ramon de la Sagra have been the principal scientific writers on this subject ; the former having travelled through a portion of the east-

ern department, early in the present century, and the latter having resided several years previous to 1833, at Havana, where he was director of the Botanic Garden. From these sources we obtain the following information in relation to its mineral resources.

Gold.—During the earlier years of settlement gold washings and mines were worked by native Indians, and Pedro Martir de Angleria, one of the most learned of the early historians of America, states that Cuba was more rich in gold than St. Domingo. The knowledge of the mines has been lost, though one is said to exist near Trinidad; but small quantities of gold are still washed out from the sands of the rivers Damuji and Caonao, emptying into the bay of Jagua, the Sagua la Grande and Agabama, near the Escambray hills, the Saramaguacan, running into the bay of Nuevitas, and brooks in the vicinity of Holguin, Bayamo and Nipe. It is said to have been found formerly near San Juan de los Remedios.

Silver has been found in combination with copper near Villa Clara, yielding seven and a half ounces to the hundred pounds of ore.

Quicksilver is said to have been extracted in former times from the arid savannas of the Copey hacienda, near San Juan de los Remedios.

Copper abounds through a great part of the island,

and more than one hundred mines have been entered, in accordance with the law, at the Treasury department, though but few of them are worked at present. The ores of those near St. Jago de Cuba have yielded at one time seventy-five per cent. of copper.

Iron has been found in several places, among which are Nueva Filipina, Bahia Honda, Jaruco, Villa Clara, Santi Espiritu, Holguin, St. Jago de Cuba, and Baracoa. An analysis of a vein near St. Jago de Cuba yielded twenty-six per cent. of metal.

Plumbago is found in combination with iron, near St. Jago de Cuba.

Copperas is also found in the same vicinity.

Antimony, with *Lead*, is said to exist near Holguin.

Talc and *Amianthus* exist in the vicinity of Trinidad, Holguin, and Santi Espiritu.

Ochre is found at Manzanillo, St. Jago de Cuba, Santa Maria del Rosario, and Guanabacoa.

Chrome.—Deposits of this pigment have been worked near Holguin.

Chalk exists at Manzanillo, and near Moron.

Grindstone and *Whetstone*, in great varieties, are found at Nueva Filipina, and in many places in the eastern part of the island.

Coal has been often sought, but hitherto without

success. Veins of solidified asphaltum (*betun*) exist in many places. Several analyses have been made of this substance; that of Guanabacoa, near Havana, giving—

Volatile matter	63
Carbon	35
Ashes and residuum.....	2
	—
	100

It burns with great flame and smoke, but cakes very much, and leaves a light, bulky coke. Its specific gravity is 1.14. Specimens from the veins near Guanabo were analyzed by Señor Sagra, in 1828, giving—

Volatile matter	28
Carbon	60
Ashes and residuum.....	12
	—
	100

Specific gravity, 1.18.

Marble is found in great abundance in many places.

Loadstone exists also in large quantities.

Moulding sand, of fine quality, abounds in Nueva Filipina.

Mineral springs are found in many parts of the island, some of which have great renown among the inhabitants for their sanative properties. The most celebrated are the following:

San Diego, forty leagues S.W. from Havana. The water of the two springs, *Tigre* and *Templado*, comes from the earth with a temperature of 95° Far. Their analysis by Señor Esteves gave to one pound of water, 0.46 grains sulphureted hydrogen, 10.5 sulphate of lime, 1. hydrochlorate of magnesia, and 1. carbonate of magnesia.

Madruga, fifteen leagues S.E. from Havana. The water is of lower temperature than that of San Diego, but similar in its qualities.

Guanabacoa, one league from Havana. There are several springs here: that of *Tarraco* being similar to the waters of Madruga; *Baño de la Condesa*, of like qualities, but more highly charged with sulphureted hydrogen; the water of the *Amber* well (*de succino*), so called from its amber taste and odor, is esteemed as a stomachic tonic; the baths of *Barreto*, *Español*, *Cassanova*, &c., are highly recommended. No analysis has been made of these waters, but they are all more or less charged with magnesia, nitre, and oxide of iron.

Mayajigua, nineteen leagues from San Juan de los Remedios. The water of this spring has a very great local reputation. It presents the phenomenon of being about fifteen degrees warmer in the morning and evening than at other hours.

Guadalupe, sixteen leagues from Santi Espiritu;

not analyzed, but similar to the waters of Guanabacoa.

Camujiro, two and a half leagues from Puerto Principe. The water is highly charged with iron, and being very tonic, is highly esteemed.

The waters of several streams in Cuba are reputed to possess mineral qualities, and to produce medicinal effects upon bathers.

We close this imperfect view of the geology and mineral resources of Cuba with the following analysis of some of the celebrated Tobacco lands, as given by Don Ramon de la Sagra.

San Diego de los Baños, two localities :—

Organic matter	18.40	23.20
Silica	70.80	68.20
Lime	0.40	4.60
Alumina	0.40	vestiges.
Oxide of iron.....	10.00	4.00
	100.00	100.00

Vuelta de Abajo, two localities :

Organic matter	9.60	4.60
Silica.....	86.40	90.80
Lime.....	0.00	vestiges.
Alumina	0.68	3.40
Oxide of iron	1.92	1.20
Loss	1.40	0.00
	100.00	100.00

CHAPTER III.

CLIMATE.

General remarks—Mean temperature—Means of heat and cold—Summer solstice—Peculiarities of winter—Compared with Macao and Rio Janeiro—Fires not needed—Hail—General remarks—Anomalies of vegetation—The pine of Cuba—Identity with that of Mexico—Temperature in the interior and at Havana—Comparison with Cumaná—Ice—Snow never seen in Cuba—Sudden changes at Havana—Internal heat of the earth—Oscillations of thermometer and barometer connected—Barometrical altitudes—Hurricanes.—[NOTE.—Hurricanes of 1844 and 1845—Rain gauge and Hygrometer—Atmospherical phenomena—Cloudy and fair days—Effect of climate on vegetation.]

THE climate of Havana is that which corresponds to the extreme limit of the torrid zone; it is a tropical climate, in which the unequal distribution of heat through the various seasons of the year presages the transition to the climates of the temperate zone.

Calcutta (N. lat. $22^{\circ} 34'$), Canton (N. lat. $23^{\circ} 8'$), Macao (N. lat. $22^{\circ} 12'$), Havana (N. lat. $23^{\circ} 9'$), and Rio Janeiro (S. lat. $22^{\circ} 54'$), are places whose location at the level of the ocean and near the tropics of Cancer and Capricorn, being equi-dis-

tant from the equator, makes them of the greatest importance in the study of meteorology. This science can advance only by the determination of certain *numerical elements*, which are the indispensable basis of the laws we wish to discover. As the appearance of vegetation on the confines of the torrid zone and under the equator is the same, we are accustomed vaguely to confound the climates of the zones comprised between the 0° and 10° , and 15° and 23° of latitude. The region of the palm, the banana, and the arborescent grasses, extends far beyond the tropics, but we should err in applying the result of our observations on the limit of the torrid zone, to the phenomena we may observe in the plains under the equator.

It is important to establish first, in order to correct these errors, the means of temperature for the year and the months, as also the oscillations of the thermometer at different stations under the parallel of Havana; and by an exact comparison with other places equally distant from the equator, Rio Janeiro and Macao, for example, to demonstrate that the great decline of temperature which has been observed in Cuba, is owing to the descent and irruption of the masses of cold air which flow from the temperate zones toward the tropics of Cancer and Capricorn.

The mean temperature of Havana, as shown by

excellent observations made through four years, is $25^{\circ}.7$ centigrade ($78^{\circ}.25$ Fahrenheit), being only 2° C. ($3^{\circ}.6$ F.) lower than that of the regions of America under the equator. The proximity of the sea increases the mean temperature of the coasts, but in the interior of the island, where the northern winds penetrate with equal force, and where the land has the slight elevation of 250 feet, the mean temperature does not exceed 23° C. ($73^{\circ}.4$ F.), which is not greater than that of Cairo and all Lower Egypt.

The difference between the mean temperature of the hottest month and that of the coldest is 12° C. ($21^{\circ}.6$ F.) in Havana, and 8° C. ($14^{\circ}.4$ F.) in the interior, while at Cumaná, it is barely 3° C. ($5^{\circ}.4$ F.) July and August, which are the hottest months attain in Cuba a mean temperature of $28^{\circ}.8$ C. ($83^{\circ}.8$ F.), and perhaps even $29^{\circ}.5$ C. ($85^{\circ}.1$ F.), as under the equator.

The coldest months are December and January; their mean temperature is 17° C. ($62^{\circ}.6$ F.) in the interior of the island, and 21° C. ($69^{\circ}.8$ F.), in Havana, that is, from 5° C. to 8° C. (9° F.), ($14^{\circ}.4$ F.) less than during the same months under the equator, but yet 3° C. ($5^{\circ}.4$ F.) higher than that of the hottest month in Paris.

As regards the extremes touched by the centigrade thermometer in the shade, the same fact is observed

near the limits of the torrid zone that characterizes the regions nearer the equator (between 0° and 10° of north and south latitude); a thermometer which had been observed in Paris at $38^{\circ}.4$ (101° F.), does not rise at Cumaná above 33° ($91^{\circ}.4$ F.); at Vera Cruz it has touched 32° ($89^{\circ}.6$ F.), but once in thirteen years. At Havana, during three years, (1810–1812), Señor Ferrer found it to oscillate only between 16° and 30° (61° and 86° F.). Señor Robredo, in his manuscript notes, which I have in my possession, cites as a notable event that the temperature in 1801 rose to $34^{\circ}.4$ (94° F.), while in Paris, according to the interesting investigations of Mons. Arago, the extremes of temperature between $36^{\circ}.7$ and 38° ($97^{\circ}.9$ and $100^{\circ}.4$ F.) have been reached four times in ten years, (1793–1803.)

The great proximity of the days on which the sun passes the zenith of those places situate near the limit of the torrid zone, makes the heat at times very intense upon the coast of Cuba, and in all those places comprised between the parallels of 20° and $23\frac{1}{2}^{\circ}$, not so much as regards entire months as for a term of a few days. In ordinary years the thermometer never rises in August above 28° or 30° C. ($82^{\circ}.4$ or 86° F.), and I have known the inhabitants complain of excessive heat when it rose to 31° C. ($87^{\circ}.8$ F.)

It seldom happens in winter that the temperature falls to 10° or 12° C. (50° to $53^{\circ}.6$ F.), but when the north wind prevails for several weeks, bringing the cold air of Canada, ice is sometimes formed at night, in the interior of the island, and in the plain near Havana. From the observations of Messrs. Wells and Wilson, we may suppose that this effect is produced by the radiation of caloric when the thermometer stands at 5° C. (41° F.), and even 9° C. ($48^{\circ}.2$ F.) above zero. This formation of a thick ice very near the level of the sea, is more worthy the attention of naturalists from the fact, that at Caraccas ($10^{\circ} 31'$ N. lat.), at an elevation of 300 feet, the temperature of the atmosphere has never fallen below 11° C. ($41^{\circ}.8$ F.); and that yet nearer to the equator we have to ascend 8,900 feet to see ice form. We also observe that between Havana and St. Domingo, and between Batabanó and Jamaica, there is a difference of only 4° or 5° of latitude, and yet, in St. Domingo, Jamaica, Martinique, and Guadalupe, the minimum temperature in the plains is from $18^{\circ}.5$ to $20^{\circ}.5$ C. ($65^{\circ}.3$ to $68^{\circ}.9$ F.)

It will be interesting to compare the climate of Havana with that of Macao and Rio de Janeiro, one similarly situated near the northern extreme of the torrid zone, but on the eastern shore of Asia, and the other near the southern limit of the torrid zone, on the

eastern shore of America. The means of temperature at Rio Janeiro are deduced from three thousand five hundred observations made by Señor Benito Sanchez Dorta; those of Macao from twelve hundred observations which the Abbé Richenet has kindly sent me.

Mean.	Havana, N. lat. 23° 9'.	Macao, N. lat. 22° 12'.	Rio Janeiro, S. lat. 22° 54'.
For the year,	78°.26 F.	73°.94 F.	74°.30 F.
" " hottest month,	83°.84 F.	83°.12 F.	80°.96 F.
" " coldest "	69°.98 F.	61°.88 F.	68° F.

The climate of Havana, notwithstanding the frequent prevalence of north and northwest winds, is warmer than either that of Macao or Rio Janeiro. The first named of these places is somewhat cold, because of the west winds which prevail along the eastern shores of the great continent. The proximity of very broad stretches of land, covered with mountains and high plains, makes the distribution of heat through the months of the year, more unequal at Macao and Canton, than in an island bordered by sea-shores upon the west, and on the north by the heated waters of the Gulf Stream. Thus it is that at Canton and Macao the winters are much more severe than at Havana.

The mean temperatures of December, January, February, and March, at Canton, in 1801, were be-

tween 15° and $17^{\circ}.3$ (59° and 62° F.); at Macao, between $16^{\circ}.6$ and 20° ($61^{\circ}.9$ and 68° F.); while at Havana they were generally between 21° and $24^{\circ}.3$ ($69^{\circ}.8$ and $75^{\circ}.7$); yet the latitude of Macao is one degree south of that of Havana, and the latter city and Canton are on the same parallel, with a difference of one mile, a little more or less. But although the isothermal lines, or lines of equal heat, are convex toward the pole in the *system of climates of Eastern Asia*, as also in the *system of climates of Eastern America*, the cold on the same geographical parallel is greater in Asia.¹ The Abbé Richenet, who used the excellent *maximum* and *minimum* thermometer of Six, has observed it to fall even to $3^{\circ}.3$ and 5° (38° and 41° F.), in the nine years, from 1806 to 1814.

At Canton, the thermometer sometimes falls to 0° C. (32° F.), and from the radiation of caloric, ice is formed on the roofs of the houses. Although this excessive cold never last more than one day, the English merchants residing at Canton light fires

¹ The difference of climate is so great on the eastern and western shores of the old continent, that in Canton, lat. $23^{\circ}.8'$, the mean annual temperature is $22^{\circ}.9$ ($63^{\circ}.2$ F.), while at Santa Cruz de Teneriffe, lat. $28^{\circ}.28'$, it is $23^{\circ}.8$ ($74^{\circ}.8$ F., according to Buch and Esclar. Canton, situate upon an eastern coast, enjoys a continental climate. Teneriffe is an island near the western coast of Africa.—H.

during the months of November, December, and January, while at Havana fires are never needed.

Hail of large size frequently falls in the Asiatic countries round Canton and in Macao, while at Havana fifteen years will pass without a single fall of hail. In all three of these places the thermometer will sometimes stand for hours between 0° and 4° C. (32° and $39^{\circ}.7$ F.); yet notwithstanding (which seems to me more strange), it has never been known to snow; and although the temperature falls so low, the banana and the palm grow as well in the neighborhoods of Canton, Macao, and Havana, as in the plains immediately under the equator.

In the present state of the world it is an advantage to the study of meteorology, that we can gather so many numerical elements of the climates of countries situate almost immediately under the tropics. The five great cities of the commercial world—Canton, Macao, Calcutta, Havana, and Rio Janeiro, are found in this position. Besides these, we have in the Northern hemisphere, Muscat, Syene, New Santander, Durango, and the Northern Sandwich Islands; in the Southern hemisphere—Bourbon, Isle of France, and the port of Cobija, between Copiapo and Arica, places much frequented by Europeans, and which present to the naturalist the same advantages of position as Rio Janeiro and Havana.

Climatology advances slowly, because we gather by chance the results obtained at points of the globe where the civilization of man is just beginning its development. These points form small groups, separated from each other by immense spaces of lands unknown to the meteorologist. In order to attain a knowledge of the laws of nature regulating the distribution of heat in the world, we must give to observation a direction in conformity with the needs of a nascent science, and ascertain its most important numerical data. New Santander, upon the eastern coast of the Gulf of Mexico, probably has a mean temperature lower than that of the Island of Cuba, for the atmosphere there must participate, during the cold of winter, in the effects of the great continent extending towards the northwest.

On the other hand, if we leave the *system of climates of Western America*, if we pass the lake, or, more strictly speaking, the submerged valley of the Atlantic, and fix our attention upon the coasts of Africa, we find that in the *cis-Atlantic system of climates* upon the western borders of the old continent, the isothermal lines are again raised, being convex towards the pole. The tropic of Cancer passes between Cape Bojador and Cape Blanco, near the river Ouro, upon the inhospitable confines of the desert of Sahara, and the mean temperature

of those countries is necessarily hotter than that of Havana, for the double reason of their position upon a *western* coast, and the proximity of the desert, which reflects the heat, and scatters particles of sand in the atmosphere.

We have already seen that the great declinations of temperature in the island of Cuba are of so short duration, that neither the banana, the sugar-cane, nor the other productions of the torrid zone, suffer the slightest detriment. Every one is aware how readily plants, that have great organic vigor, sustain momentary cold, and that the orange-trees in the vicinity of Genoa resist snow-storms and a degree of cold not lower than 6° or 7° C. below zero ($21^{\circ}.2$ or $19^{\circ}.4$ F. above zero).

As the vegetation of Cuba presents an identity of character with that of regions near the equator, it is very extraordinary to find there, even in the plains, a vegetation of the colder climates, identical with that of the mountains of Southern Mexico. In other works, I have called the attention of botanists to this extraordinary phenomenon in the geography of plants. The pine (*pinus occidentalis*), is not found in the Lesser Antilles, and according to Mr. Robert Brown, not even in Jamaica (between $17\frac{3}{4}^{\circ}$ and 18° of latitude), notwithstanding the elevation of the Blue Mountains in that island. Further north only

do we begin to find it, in the mountains of St. Domingo, and throughout the island of Cuba, which extend from 20° to 23° of latitude. There, it attains a height of sixty or seventy feet, and what is still more strange, the pine and the mahogany grow side by side in the plains of the Isle of Pines. The pine is also found in the southeastern part of Cuba, on the sides of the Cobre Mountains, where the soil is arid and sandy.

The interior plain of Mexico is covered with this same class of coniferas, if we may rely upon the comparison made by Bonpland and myself, with the specimens we brought from Acaguisotla, the snow mountain of Toluca, and the Cofre of Perote, for these do not seem to differ specifically from the *pinus occidentalis* of the Antilles, as described by Schwartz. But these pines, which we find at the level of the sea in Cuba, between the 20° and 22° of latitude, and only upon its southern side, do not descend lower than 3,200 feet above that level upon the Mexican continent, between the parallels of $17\frac{1}{2}^{\circ}$ and $19\frac{1}{2}^{\circ}$. I have even observed that on the road from Perote to Jalapa, on the eastern mountains of Mexico, opposite to Cuba, the limit of the pines is 5,950 feet, while on the western mountains, between Chilpancingo and Acapulco, near Cuasiniquilapa, two degrees further south, it descends to 3,900 feet,

and at some points, perhaps, even to the line of 2,860 feet.

These anomalies of position are very rare under the torrid zone, and depend probably less on the temperature than on the soil. In the system of the migration of plants, we should suppose that the *pinus occidentalis* of Cuba had come from Yucatan, before the opening of the channel between Cape Catoche and Cape San Antonio, and not, by any means, from the United States, although the coniferous plants abound there, for the species of whose geography we are treating has not yet been found in Florida.

The following table exhibits the results of observations of temperature, made at Ubajay, in Cuba.

	1796.	1797.	1798.	1799.
January,	65° F.	64° F.	68° F	61° F.
February,	72	66	69	63
March,	71	64	68½	64
April,	74	68	70	68
May,	78½	77	73	76
June,	80	81	83	85
July,	82½	80	85	87
August,	83	84	82	84
September,	81	81½	80	86
October,	78	75½	79½	73
November,	75	70	71	61
December,	63	67½	60	59
Mean,	75°.2	73°.2	74°.2	71°.4

The village of Ubajay, as I have before said, lies about five maritime leagues from Havana, in a plain 242 feet above the level of the sea. The partial mean temperature of December, 1795, was 18°.6 C. (65°.84 F.); that of January and February, 1800, had varied from 13°.8 C. (56°.84 F.) to 18°.9 C. (66°.12 F.) by Nairne's thermometer.

MEAN OF OBSERVATIONS AT HAVANA.

	1800.	1810-12.
January,	—	70° F.
February,	—	72°
March,	70° F	79°
April,	72°.9	78°.6
May,	77°.9	82°.2
June,	86°	82°.7
July,	86°.5	82°.9
August,	82°.9	83°.4
September,	79°	82°.6
October,	79°.9	79°.5
November,	72°.	75°.6
December,	74°.8	70°
Mean,	78°.3	78°.3

Comparison betweeen the mean temperature in the interior and on the shore of Cuba and at Cumaná, in South America. See following table.

	Ubajay, int. of Cuba.	Havana coast.	Cumaná N. lat 10° 27'.
December to February	64°.4 F.	71°.2	80°.4
March to May	71°.2	79°.2	83°.7
June to August	81°.8	83°.3	82°.0
September to November ..	74°.8	78°.6	82°.6
Mean	<hr/> 73°.2	<hr/> 78°.3	<hr/> 81°.7
Coldest months	62°.0	70°.0	79°.2
Hottest "	83°.5	83°.4	84°.4
At Rome, N. lat. 41° 53'—Mean temp.....		59° F.	
" " Hottest month.....		77°.0	
" " Coldest "		42°.3	

During the last fifteen days of the year 1800, I observed the centigrade thermometer almost constantly between 10° and 15° (50° and 59° F.). At the hacienda Rio Blanco (in Cuba), it fell in January to 7°.5 C. (45°.5 F.) In the country near Havana, on a hill 318 feet above the level of the sea, water has frozen, the ice being several lines in thickness. Señor Robredo informed me of this fact, which again occurred in December, 1812, after a prevalence of very strong northerly winds for nearly a month.

As it snows in the flat countries of Europe, when the thermometer is several degrees above zero, (32° F.), it is surprising that in no part of this island, nor even in the hills of San Juan, nor in the high mountains of Trinidad, has it ever been known to

snow; and frost is known only on the crests of these hills and of the Copper Mountains. We must suppose that other conditions than the rapid fall of temperature in the upper regions of the air are needed for it to hail and snow.

I have stated elsewhere that it has never been known to hail at Cumaná, and very rarely in Havana, happening only once in fifteen years, during violent electrical explosions and S.S.W. winds. At Kingston, Jamaica, the fall of the thermometer at sunrise to $20^{\circ}.5$ (69° F.), is cited as an extraordinary phenomenon. In that island we must ascend the Blue Mountains to the height of 7,325 feet, to see it fall to $8^{\circ}.3$ (47° F.) in the month of August. At Cumaná, 10° N. lat., I have not known the thermometer to fall to $20^{\circ}.8$ ($69^{\circ}.4$ F.).

Changes of temperature occur very suddenly in Havana. In April, 1804, the variation of the thermometer in the shade, within the space of three hours, was from $32^{\circ}.2$ to $23^{\circ}.4$ C. (89° to $74^{\circ}.1$ F.), that is, 9° C. ($16^{\circ}.2$ F.), which is very considerable in the torrid zone, and twice as great as the variation found on the coast of Colombia, further south. The inhabitants of Havana (N. lat. $23^{\circ} 8'$) complain of cold when the temperature falls rapidly to 21° C. ($69^{\circ}.8$ F.), and in Cumaná (N. lat. $10^{\circ} 28'$), when it falls to 23° C. ($73^{\circ}.4$ F.). In April, 1804, water sub-

jected to rapid evaporation of heat, and which was deemed very cool, stood at $24^{\circ}.4$ C. ($75^{\circ}.9$ F.), while the mean temperature of the air was $29^{\circ}.3$ C. ($84^{\circ}.7$ F.)

A collection of many careful observations of the internal heat of the earth on the confines of the torrid zone, would be interesting. In the caverns of the limestone formation, near San Antonio de Beita (Cuba), and in the springs of the Chorrera river, I have found it to be between 22° and 23° C. ($71^{\circ}.6$ and $73^{\circ}.4$ F.), and Señor Ferrer observed it at $24^{\circ}.4$ C. ($75^{\circ}.9$ F.) in a well one hundred feet deep. These observations, which perhaps have not been made under advantageous circumstances, show a temperature of the earth much lower than that of the air, which is seen to be $25^{\circ}.7$ C. ($78^{\circ}.3$ F.) at Havana, and 23° C. ($73^{\circ}.4$ F.) in the interior of the island, at an elevation of 255 feet. These results do not conform with observations made at other places in the temperate and glacial zones. Do the very deep currents which carry the water of the poles towards the regions of the equator, diminish the internal temperature of the earth in islands of narrow breadth? We have treated this delicate question in relating our experience in the caverns of Guacharo, near Caripe. It is stated that in the wells of Kingston, Jamaica, and the low lands of Guadalupe, the

thermometer has been observed at $27^{\circ}7$, $28^{\circ}6$, and $27^{\circ}2$ C. ($81^{\circ}9$, $83^{\circ}5$, and 81° F.), consequently at a temperature equal to that of the air at these places.

The great changes of temperature to which countries on the borders of the torrid zone are subject, have a connection with certain oscillations of the barometer, which are not observed in the regions near the equator. At Havana, as well as at Vera Cruz, the regular variations of atmospheric pressure experienced at determinate hours of the day, are interrupted when strong northerly winds prevail. I have observed that the barometer in Cuba generally stands, when the sea-breeze is blowing, at 0.765, and that it fell to 0.756, and even lower, when the south wind blew.

It has been stated in another place, that the mean barometrical altitudes of the months when the barometer is highest (December and January), vary in respect to the months when the barometer is lowest (August and September), from 7 to 8 millimetres, that is to say, almost as much as at Paris, and five or six times more than at the equator, and 10° north and south latitude.

Mean altitude.—	December.....	0.76656	or 22.1	Cent. of T.
"	January	0.76809	" 21.2	"
"	July.....	0.76453	" 28.5	"
"	August.....	0.76123	" 28.8	"

During the three years 1810–1812, when Señor Ferrer took the mean altitudes, the extreme variation on those days when the mercury rose or fell most in the barometer, did not exceed thirty millimetres. In order to exhibit the accidental oscillations of each month, I present here the table of observations in 1801, in the hundredth parts of an English inch, according to the manuscript notes of Don Antonio Robredo.

	Maximum.	Minimum.	Mean.	Mean. temperature.
January,	30.35	29.96	30.24	14.5 R.
February,	30.38	30.01	30.26	15.6
March,	30.41	30.20	30.32	15.5
April,	30.39	30.32	30.35	17.2
May,	30.44	30.38	30.39	19.4
June,	30.36	30.33	30.34	22.2
July,	29.38	29.52	30.22	22.4
August,	30.26	30.12	30.16	22.8
September,	29.18	29.82	30.12	21.0
October,	30.16	30.04	30.08	18.6
November,	30.18	30.09	30.12	16.5
December,	30.26	30.02	30.08	12.1

Hurricanes are less frequent in Cuba than in St. Domingo, Jamaica, and the Lesser Antilles situate east and south of Cape Cruz; for we should not confound the violent north winds with the hurricanes, which most generally blow from the S.S.E, or the

S.S.W. At the time I visited the island of Cuba, no hurricane had occurred since the month of August, 1774, for the gale of the 2d November, 1796, was too light to be so called.

The season when these violent and terrible movements of the atmosphere occur in Cuba, during which a furious wind prevails, varying to every point of the compass, and frequently accompanied by lightning and hail, is during the last of August, the month of September, and particularly that of October. In St. Domingo and the Caribbean Isles, those most feared by seamen occur during July, August, September, and the first fifteen days of October. Hurricanes are most frequent there in the month of August, so that this phenomenon manifests itself later as we proceed toward the west.

Violent southeast winds also prevail at Havana, during the month of March. No one in the Antilles acknowledges that the hurricanes have their regular periods. Seventeen occurred from 1770 to 1795, while from 1788 to 1804, none were experienced in Martinique. In the year 1642, three occurred.

It is worthy of notice that at the two extremities of the long cordillera of the Antilles (the S.E. and N.W.), hurricanes are least frequent. The islands of Tobago and Trinidad, happily, never experience them, and in Cuba, these violent ruptures of the

atmospheric equilibrium rarely occur. When they do happen, the destruction they cause is greater at sea than on the land, and more upon the southern and southeastern coast, than upon the northern and northwestern. In 1527, the famous expedition of Panfilo de Narvaez was partly destroyed by one in the harbor of Trinidad de Cuba.

[NOTE.—Since the visit of Baron Humboldt to Cuba, in the beginning of the present century, only two hurricanes have been experienced there. The first of these occurred on the 4th and 5th of October, 1844. It began about ten o'clock on the evening of the 4th, and continued with great violence until daylight, when the point of greatest descent of the barometer, 28.27, was observed. From that time, it subsided, and the torrents of rain began to cease, but the wind continued to blow with great violence until 10 A.M. This storm passed over all the zone of country comprised between Bahia Honda and Sierra Morena on the north, and Galafre and Cienfuegos on the south side of Cuba. One hundred and fifty-eight vessels were wrecked in the harbors and on the coasts, and one hundred and one lives were lost. The crops suffered severely, and 2,546 houses were destroyed. The second hurricane occurred in the following year, and was more destructive than

the preceding one. It began about midnight of the 10th October, and increased in violence, with torrents of rain and spray, until 10 30 A.M. of the 11th, when the barometer had fallen to 27.06, the lowest point it has ever been known to touch in Cuba. Its ravages extended over nearly the same extent of country with that of 1844, but its greatest violence was confined to a circle of about forty miles radius round Havana. Two hundred and twenty-six vessels were lost, 1,872 houses were blown down, 5,051 partially destroyed, and 114 persons perished. During both of these hurricanes, the wind veered to every point of the compass, and the salt spray was carried fifteen or twenty miles inland, blackening vegetation as though fire had passed over it.—(Arboleya, *Manual de la Isla de Cuba*.)

To the foregoing admirable view of the climate of Cuba, by Baron Humboldt, we can only add the following tables and remarks from Don Ramon de la Sagra's "Historia Fisica, Politica y Natural de la Isla de Cuba." The indications of the rain-gauge are in English inches, and the hygrometer is expressed by Deluc's scale.

RAIN FALLEN AT HAVANA, AND MONTHLY MEAN OF
HYGROMETER.

	1811.	1812.	1813.	1814.	1815.	Mean.	Hygrom.
January ..	0.00	7.14	0.20	1.70	3.67	3.17	15.12
February .	0.00	1.98	0.54	3.08	2.17	1.94	56.08
March	1.70	3.15	0.48	2.90	0.25	1.70	53.71
April.....	3.60	2.40	0.00	5.90	0.15	2.41	52.04
May.....	2.05	2.63	5.55	3.67	3.10	3.40	51.84
June	11.26	0.00	5.35	6.50	6.59	5.94	55.42
July	8.33	2.75	6.31	8.42	2.35	5.63	56.34
August ...	2.89	2.57	4.35	1.75	1.61	2.66	54.44
September	7.27	1.61	4.37	5.40	5.17	4.75	54.60
October ..	0.90	5.41	8.92	0.73	8.71	4.93	55.40
November	1.40	0.75	1.30	0.62	4.93	1.80	56.10
December	1.45	0.36	2.38	0.90	1.44	1.43	54.95
Totals ..	40.85	31.35	39.75	41.57	40.14	39.76	54.67

" Notwithstanding the frequency of rain during the hot season, that is during the months of July August, and September, these months do not present the greatest number of cloudy days. The rains of summer, although copious, are of short duration, and those days on which showers do not fall, are in general perfectly cloudless. It may almost be said that during these months no clouds are to be seen in the atmosphere, except while the shower is falling, while in the other months cloudy days sometimes occur without rain. Days during which the heavens

are completely clouded are extremely rare in Cuba : we give from our diary the mean of our observations for each month :

	Cloudy days.	Clear and par- tially cloudy days.
January	5	26
February	8	20
March	7	24
April.....	5	25
May....	8	23
June	6	24
July	6	25
August	6	25
September	7	23
October.....	7	24
November....	8	22
December	7	24
Total	80	285

"These tables will give some idea of the beauty of the sky in these regions, and of its effect upon the life and luxuriant growth of vegetation. A high temperature, moderated by great evaporation, which pours through the atmosphere a continuous torrent of watery vapors, presents the most favorable conditions for the development of an admirable vegetation ; which again contributes, on its part, to maintain the humidity of the atmosphere—soul of its exuberant life. Thus it is that through all seasons of the year the

fields and forests of Cuba preserve their verdure ; but it is principally at the beginning of summer, during the rainy season, that all nature there seems to be transformed to flowers."

CHAPTER IV.

GEOGRAPHY.

Banks and reefs round Cuba—North coast—South coast—Territorial divisions—Judiciary—Ecclesiastical—Politico-military—Public Finances—Proposed new division—Present dividing line of bishoprics—Number of parishes—Popular territorial divisions—First governor—[NOTE, Maritime subdivision.]

I MIGHT have cited, among the causes of the low temperature in Cuba, during the winter months, the numerous shoals that surround the island, on which the temperature of the sea is greatly diminished, partly by the polar currents which seek the abysses of the tropical ocean, and partly by the mixing of the surface and the deep waters on the steep sides of the banks; but this cause of fall in the temperature is partly compensated by that river of warm water (the Gulf Stream), which bathes the whole extent of the northwestern shore of Cuba, and whose rapid flow is often delayed there by the northern and northwestern winds.

The chain of shoals that surrounds this island, and

which appears like a shading in our maps, is fortunately broken in many places; and these interruptions afford to commerce a free access to the shore. The parts of the island which are least dangerous, and most free from reefs, sandbanks, and rocks, are the southeastern side, between Cape Cruz, and Cape Maysi (72 maritime leagues), and the northwestern, between Matanzas and Cabañas (28 leagues). On the southeastern side, the proximity of high mountains makes the shore bold; there we find the harbors of St. Jago de Cuba, Guantanamo, Baitiquiri, and, doubling Cape Maysi, Baracoa. This last-named port was the first one settled by Europeans.

The north side of the island, from Cape Mulas, N.N.W. of Baracoa, to the port of Nuevitas, is equally free from banks and reefs. East of Cape Mulas, ships find excellent anchorage in the bays of Tanamo, Cabonico, and Nipe, and, west of that cape, in the bays of Sama, Naranjo, Padre, and Nuevas Grandes. The uninterrupted series of cays lining the old Bahama Channel, and extending from Nuevitas to Point Hiçacos, a distance of ninety-four leagues, commences near the bay of Nuevas Grandes, almost under the same meridian with the beginning of the Buena Esperanza Banks, on the south side, which are prolonged to the Isle of Pines.

The narrowest part of the old Bahama Channel is

between Cape Cruz and Cay Romano, where it is barely five or six leagues wide. The shoalest part of the Great Bahama Banks is also in this vicinity. The islands and parts of this bank not covered by water (Long Island, Eleuthera, &c.), are very extensive; and, should the level of the ocean fall twenty or thirty feet, an island larger than Haiti would appear here upon its surface. The chain of cays and reefs that lines the shore of Cuba is so broken that it affords small but clear channels to the harbors of Guanaja, Moron, and Remedios.

Passing through the old Bahama Channel, or, more properly speaking, through San Nicholas' Channel, between Cruz del Padre and the cays of Cay Sal-bank, many of which have springs of fresh water, we again find a safe coast from Point Hicacos to Cabañas bay, with the harbors of Matanzas, Puerto Escondido, Havana, and Mariel. Further west, beyond the harbor of Bahia Honda, the possession of which might well tempt any maritime power at war with Spain, the chain of shoals and reefs (Santa Isabel and Colorados), again commences, and continues, without interruption, to Cape San Antonio.

On the south side, the shore from this cape to Point Piedras and the Bay of Cortés is very bold, and gives no soundings; but between Point Piedras and Cape Cruz, nearly all of the coast is covered

with shoals, of which the Isle of Pines is but a part, not covered by water. The western portion is known as the Jardines and Jardinillos—the eastern as Cay Breton, Cays de Doce Leguas, and the bank of Buena Esperanza. The navigation of all this extent of southern coast is dangerous, except from the Bay of Cochinos to the mouth of the river Guaurabo.

The resistance offered by the elevated land of the Isle of Pines to the ocean currents, may be said to favor at once the accumulation of sand and the labors of the coral insect, which thrives in still and shallow water. In this extent of one hundred and forty-five leagues of coast, but one-seventh of it, lying between Cay de Piedras and Cay Blanco, a little west of the harbor of Casilda, presents a clear shore with harbors; these are the roadstead of Batabanó, and the bays of Jagua and Casilda. East from the latter port, toward the mouth of the river Cauto and Cape Cruz (inside of Cay de Doce Leguas), the shore, which is full of springs, is very shallow and inaccessible, and almost entirely uninhabited.

In Cuba, as formerly in all the Spanish possessions of America, we find those subdivisions of the country which have so puzzled modern geographers; these are the Ecclesiastical, the Politico-Military, the

Public Finances, and the Judiciary. We shall not speak of the latter, as the island has but one *Audiencia*, which was established at Puerto Principe, in 1797, its jurisdiction extending from Baracoa to Cape San Antonio.¹

The ecclesiastical division of two bishoprics dates from 1788, when Pope Pius VI., created the first bishop of Havana. The island of Cuba, together with Louisiana and Florida, was formerly a part of the archbishopric of St. Domingo, and from the time of its discovery constituted but one bishopric, which was founded at Baracoa, in 1518, by Pope Leo X. This bishopric was translated to St. Jago de Cuba, in 1522, but the first bishop, Friar Juan de Ubite, did not reach his diocese until 1528. In the beginning of the present century (1804), the bishop of St. Jago was created archbishop.

In the Politico-Military government, the island is divided into two departments, both subordinate to the captain-general. That of Havana comprises, besides the capital, the districts of Nueva Filipinas, Cuatro Villas (Trinidad, Santi Espiritu, Villa Clara, and San Juan de los Remedios), and Puerto Prin-

¹ Another *Audiencia* was established at Havana, in 1839, and the island divided into two judiciary districts. The *Audiencia* of Puerto Principe was subsequently abolished, and its jurisdiction united with that of Havana.

cipe. The captain-general, who is also governor of the department of Havana, appoints a lieutenant-governor for each of the several districts. The jurisdiction of the captain-general extends also as *Corregidor* to eight municipalities, being the cities of Matanzas, Jaruco, San Felipe y Santiago, and Santa Maria del Rosario, and the towns of Guanabacoa, Santiago de las Vegas, Güines, and San Antonio de los Baños.

The department of Cuba comprises the district of that name, and those of Baracoa, Holguin, and Bayamo. The boundaries of these two departments are not the same with those of the ecclesiastical divisions; as, for instance, the district of Puerto Principe, with seven parishes, was subject, in 1814, to the governor of Havana, and to the bishop of St. Jago de Cuba. In the census of 1817-20, Puerto Principe is united, with Bayamo and Baracoa, to the department of Cuba.¹

We have only to consider the third subdivision,

¹ In 1827, the Politico-Military constitution was re-organized, and the island was divided into three departments—Western, Central, and Eastern—with some alterations in the districts, required by the increase of population. This subdivision continued until 1850, when the old form of two departments was re-established—the district of Puerto Principe being placed under the jurisdiction of the governor of the Eastern department.

which appertains entirely to the administration of the revenue. By a royal decree of 23 March 1812, three intendencies or provinces were created, viz.: Havana, Puerto Principe, and St. Jago de Cuba, which extend, from east to west, about 90, 70, and 65 leagues, respectively. The intendant of Havana retains the title and prerogatives of sub-delegate-superintendent-general of the royal treasury of Cuba. Under this subdivision, the intendancy of St. Jago de Cuba comprises that district, and those of Baracoa, Holguin, Bayamo, Gibara, Manzanillo, Jiguaní, Cobre, and Las Tunas. That of Puerto Principe comprises the district of that name, and those of Nuevitas, Jagua, Santi Espiritu; San Juan de los Remedios, Villa Clara, and Trinidad. The intendancy of Havana comprises all that part of the island lying west of the district of Cuatro Villas. The intendant resides at Havana.

When the island shall become more advanced in population and agriculture, it would seem to be more convenient and more in conformity with the historic recollections of the times of the conquest, that it should be divided into five departments; that of the *Vuelta Abajo*, extending from Capé San Antonio to the beautiful town of Guanajay and Mariel; *Havana*, from Mariel to Alvarez; *Cuatro Villas*, from Alvarez to Moron; *Puerto Principe*, from Moron to the

river Cauto; and *Cuba*, from the Cauto to Cape Maysi.

The dividing line of the two bishoprics runs from the mouth of Santa Maria Creek, on the south coast, to Point Judas, opposite Cay Romano, on the north. During the short time that the rule of the Spanish constitution extended to Cuba, the ecclesiastical division also served for that of the representative districts of Havana and St. Jago.

The diocese of Havana contains forty parishes, and that of St. Jago twenty-two, which, having been established at a time when the island contained only cattle or grazing farms, are very large, and ill-adapted to the wants of the present population.¹

The most common and popular territorial divisions, with the people of Havana, are the *Vuelta de Arriba* and the *Vuelta de Abajo*, lying east and west of the meridian of Havana. The first captain-general of the island was Don Pedro Valdez, appointed in 1601. Sixteen governors had preceded him, the first of whom was the famous *Poblador* and *Conquistador*, *Diego Velazques*, a native of Cuellar, in Spain, who was appointed by Diego Colon, at that time admiral and governor of St. Domingo.

¹ Under the present ecclesiastical arrangement, the diocese of Havana contains one hundred and sixteen, and that of St. Jago forty-one parishes.

[NOTE.—There is now another territorial subdivision in Cuba, known as the Marine department. The island is divided into five districts, which are Havana, Trinidad, San Juan de los Remedios, Nuevitas, and St. Jago de Cuba. The head-quarters of the Spanish naval power in America is established at Havana.]

CHAPTER V.

POPULATION.

Its political importance—Former census—Population in 1825—Compared with other Antilles—Relative proportions of races in slave countries—Reflections—Why slaves have not diminished since 1820—Proportions of free, and slaves, and of sexes—Fears on cessation of slave trade—Why unfounded—Distribution of population in 1811—Free colored seek the towns—Relative density—Census of 1775—Of 1791—Their contradictions—Corrections—Motion in Spanish Cortes for abolition of slavery—Remonstrance from Cuba—Census of 1817—Is not complete—Mode of estimating increase—Relative increase of classes—Several causes of increase—Rate—Excessive between 1791 and 1810—Unequal distribution of classes—[NOTE.—Census of 1827, 1841, and 1846—Reasons for distrusting that of 1846—Supposed decrease of slaves—Its improbability—Reasons therefor—Increase of slaves—Annual rate of total increase—Present population.]

IN the preceding chapters, we have examined the area, geological constitution, and climate of a country opening a vast field to civilized man. That we may duly appreciate the influence which the richest of the Antilles, under the stimulus of great natural elements of power, may some day exercise in the political balance of insular America, let us compare

her present population with that she can maintain upon her 3,600 square leagues of country, the greater part of which is very fertile under the abundant tropical rains, and is still unconscious of the presence of man.

Three successive, but very inexact enumerations have stated the population as follows:—

In 1775,	170,862.
1791,	272,140.
1817,	630,980.

According to this last census, there were, in the island, 290,021 whites, 115,651 free colored and 225,268 slaves. These results agree very well with the interesting papers on this subject, laid before the Spanish Cortes in 1811, by the Ayuntamiento of Havana, in which the approximate population was stated to be 600,000 souls, viz.:—274,000 whites, 114,000 free colored, and 212,000 slaves.

If we take into consideration the several omissions that occurred in the census of 1817, the number of slaves imported (there were entered, at the Havana custom-house, during the three years, 1818–19, and 20, more than 41,000), and the ratio of increase of the white and free colored population, in the eastern part of the island, as shown in the two census of 1810 and 1817, we shall find the probable population of Cuba, at the close of 1825, to be—

Whites,	325,000
Free colored,	130,000
Slaves,	260,000
Total,	715,000 ¹

Consequently, the population of Cuba at the present time (1825), is very nearly equal to that of all the English Antilles, and almost double that of Jamaica. The relative proportion of the inhabitants, according to race and state of civil liberty, presents the most extraordinary contrasts in those countries where slavery has taken great root. The following statement shows these proportions, and gives rise to deep and grave reflections.

COMPARATIVE POPULATION OF THE ANTILLES AND THE
UNITED STATES.

	Population.	White.	Free colored.	Slaves.	Ratio.
Cuba,	715,000	325,000	130,000	260,000	46 : 18 : 36
Jamaica,	402,000	25,000	35,000	342,000	6 : 9 : 85
English Antilles,	776,500	71,350	78,350	626,800	9 : 10 : 81
All the Antilles,	2,843,000	482,600	1,212,900	1,147,900	17 : 43 : 40
U. States,	10,525,000	8,575,000	285,000	1,665,000	81 : 3 : 15

¹ The official census of 1827 states the population in that year as follows:—

Whites,	811,051
Free colored,	106,494
Slaves,	286,942
Total,	704,487

We perceive by this table, that the free population in Cuba is .64 of the whole population ; in the English Antilles it is barely .19. In all the Antilles the colored population (blacks and mulattoes, free and slave), forms a total of 2,360,000, or .83 of the entire population.

If the legislation of the Antilles, and the condition of the colored population, does not soon experience some salutary change, and if discussion without action is continued, the political preponderance will pass into the hands of that class which holds the power of labor, the will to throw off the yoke, and valor to undergo great privations. This bloody catastrophe will occur as the necessary consequence of circumstances, and without the free negroes of Haiti taking any part whatever, they continuing always the isolated policy they have adopted. Who shall dare to predict the influence which an *African Confederation of the Free States of the Antilles*, lying between Colombia, North America and Guatemala, might have in the politics of the New World ?

The fear that such an event might be realized, undoubtedly operates more powerfully upon the minds of men, than do the principles of humanity and justice ; but in all the islands the whites believe themselves to be the strongest ; for simultaneous

action on the part of the negroes, seems to them impossible, and every change, or concession made to a population subject to servitude, is deemed to be cowardice. But it is not yet too late, for the horrible catastrophe of St. Domingo happened because of the inefficiency of the government. Such are the illusions which prevail with the great mass of the colonists of the Antilles, and form an obstacle to improvement in the state of the negroes in Georgia and the Carolinas. The island of Cuba may free herself better than the other islands from the common shipwreck, for she has 455,000 freemen, while the slaves number only 260,000; and she may prepare gradually for the abolition of slavery, availing herself for this purpose, of humane and prudent measures. Do not let us forget that since Haiti became emancipated, there are already in the Antilles more free negroes and mulattoes than slaves. The whites, and more particularly the free blacks, who may easily make common cause with the slaves, increase rapidly in Cuba.

The slave population of Cuba would have diminished with great rapidity since 1820, had it not been for the fraudulent continuance of the slave-trade with Africa. If this infamous traffic should cease entirely, through the advance of civilization, and the energetic will of the new States of Free America, the servile

population would diminish largely for some time, because of the existing disproportion between the sexes, and because many would continue to attain their liberty. This decrease would not cease until the relative proportion of births and deaths should compensate even for the slaves freed.¹

The whites and free colored comprise nearly two-thirds of the entire population of the island ; and by their increase we already perceive, in part at least, the relative decrease of the slave population. The proportion of women to men among this class, exclusive of the mulatto slaves, is as 1 to 4 on the sugar estates ; in the whole island it is as 1 to 1.7 ; in the cities and haciendas, where the negro slaves are servants, or hire their time from their masters, it is as 1 to 1.4, and even (in Havana for example) as 1 to 1.2.

The prognostications which some too lightly make, of a decrease in the entire population of the island upon the actual cessation of the African slave-trade, (not its legal cessation which occurred in 1820) ; of the impossibility of continuing the cultivation of sugar on a large scale ; of the approach of a time when the agricultural interest of Cuba will become reduced to the planting of coffee and tobacco, and the breed-

¹ See note at the end of this chapter.

ing of cattle, are founded upon arguments which do not seem to me sufficiently conclusive.

They do not take into consideration the fact, that but one-sixth of the total number of slaves are on the sugar plantations, many of which are not sufficiently stocked with hands, and consequently debilitate their slaves by frequent night-labor, while the problem of the *pro rata* increase of the total population of Cuba, when the importation of negroes from Africa shall have ceased entirely, is based upon elements so complicated, upon such various *compensations* of effect upon the white, free-colored, and slave rural population on the sugar, coffee, and tobacco plantations; the slaves on the grazing farms, and those who are servants, laborers, and mechanics, in the cities, that we should not anticipate such mournful presages, but wait until positive statistical data have been obtained.

The spirit in which the censuses have been taken, even the oldest, that of 1775, for example, marking the distinctions of age, sex, race, and state of civil liberty, is worthy of the highest praise. The means of execution only have been wanting, for the government has recognized how important it is for the tranquillity of the inhabitants to know minutely the occupation of the negroes, their numerical distribution in the sugar estates, farms, and cities. To

remedy the evil, to prevent public calamities, and to console the unfortunate beings who belong to an ill-treated race, and who are feared more than is acknowledged, it is necessary to probe the sore; for there exists in social, as well as organic bodies, reparative forces, which, when well directed, may triumph over the most inveterate evils.

In 1811, when the Ayuntamiento and the *Consulado* estimated the total population of the island at 600,000, of which 326,000 were colored, free and slave; the distribution of this mass of negroes, between the towns and the rural districts, showed the following results, comparing each partial number with the whole number of blacks, considered as a unit:

Western department.	Free.	Slave.	Total.
In towns,	11	11½	22½
In rural districts,.....	1½	34	35½
 Eastern department.			
In towns,	11	9½	20½
In rural districts,.....	11	10½	21½
	<hr/>	<hr/>	<hr/>
	34½	65½	100

It appears, from this table, which may be subject to correction by subsequent investigations, that, in 1811, nearly three-fifths of the blacks resided in the district of Havana, between Cape San Antonio and Alvarez; that, in that part of the island, there were

as many free negroes as slaves, but that the total colored population of the towns, compared with that of the country, was as 2 to 3. On the other hand, in the eastern portion of the island, from Alvarez to St. Jago de Cuba, the number of blacks living in the towns was nearly equal to that in the country.¹

We shall see, further on, that between the years 1811 and 1825, Cuba received, through licit and illicit channels, 185,000 African negroes, of which nearly 116,000 were entered at the custom-house of Havana, between 1811 and 1820. This recently imported mass has undoubtedly been distributed more in the country than in the towns, and will have affected the estimated proportions which well-

¹ This disposition of the free blacks to abandon the rural districts, and gather in the towns, is very striking, and worthy of careful study by social economists. The form of the latest census returns in Cuba, does not enable us to institute the exact comparison here made by Baron Humboldt; but that of 1846 shows that the city of Havana and suburbs, contained the following proportions of the total population of the Western department :

	White.	Free Col'd.	Slaves.
Havana,	29	51	11
Rest of department,	71	49	89

It would be interesting to know if the same tendency to abandon the rural districts exists among the free negroes of St. Domingo and Jamaica, and, if so, what effect it has upon their social and moral condition.

informed persons had ascertained in 1811, as existing between the eastern and western parts of the island, and the country and towns. The slaves have increased largely in the eastern districts, but the fearful certainty that, notwithstanding the importation of 185,000 new negroes, the mass of free colored and slaves, mulattoes and blacks, had increased only 64,000, or one-fifth, between 1811 and 1825, exhibits clearly that the changes experienced by the relations of partial distribution, are reduced to much narrower limits than might have been supposed.

Supposing the population, as already stated, to be 715,000 (which I believe to be within the minimum number), the ratio of population in Cuba, in 1825, is 197 individuals to the square league, and, consequently, nearly twice less than that of St. Domingo, and four times smaller than that of Jamaica. If Cuba were as well cultivated as the latter island, or, more properly speaking, if the density of population were the same, it would contain 3515×874 or 3,159,000 inhabitants;¹ that is to say, more than are

¹ Supposing the population of Haiti to be 820,000, it is 334 persons to the square league, and if we estimate it at 936,000, it is 382. Native writers suppose the island of Cuba to be capable of maintaining seven and two-sevenths millions of inhabitants. (See Remonstrance of the Cuban Deputies, against the tariff of 1821, p. 9.)

now contained in the Republic of Colombia, or in all the archipelago of the Antilles. Yet Jamaica has 1,914,000 acres of waste land.

The most remote official census and statistics that I could obtain, during my residence in Havana, are those of 1774 and 1775, compiled by order of the Marquis de la Torre, and that of 1791, by order of Don Luis de las Casas.¹ Everyone is aware that both these were made with great negligence, and a large part of the population was omitted. The census of 1775, which is known as that of the Abbé Raynal, gives the following figures:

Even under this hypothesis, the ratio of population would not be equal to that of Ireland.—H.

¹ This governor was the founder of the Patriotic Society, the Board of Agriculture and Trade, the Chamber of Commerce, the Orphan Asylum, the Chair of Mathematics, and several primary schools. He intended to ameliorate the barbarous forms of criminal law, and created the noble office of advocate for the poor. The improvement and ornament of the city of Havana, the building of the highway to Guanajay, the construction of docks, the protection afforded to writers for the press, that they might give vigor to public spirit, all date from his time. Don Luis de las Casas y Aragorri, captain-general of Cuba (1790–1796), was born in the village of Sopuerta, in Biscay; he fought with great distinction in Portugal, at Pensacola, in the Crimea, before Algiers, at Mahon, and at Gibraltar. He died in July, 1800, at Puerto Santa Maria, at the age of 55 years. See the compendiums of his life by friar Juan Gonzalez, and by Don Tomas Romay.—H.

	Males.	Females.
Whites,	54,555	40,864
Free colored,	15,980	14,635
Slaves,	28,774	15,562
Total,	99,309	71,061

In all, 170,370, of which the district of Havana alone contained 75,607. I cannot answer for the correctness of this table, for I have not seen the official documents.

The census of 1791 gave 272,141 inhabitants, of which 137,800 were in the district of Havana, as follows: 44,337 in the capital, 27,715 in the other towns and villages of the district, and 65,748 in the country Partidos. These figures have been compared with the registers. A moment's reflection will demonstrate the contradictory nature of these results. The mass of 137,800 inhabitants in the district of Havana, are stated as follows; whites, 73,000, free colored, 27,600, slaves, 37,200; so that the whites would bear a proportion to the slaves of 2 to 1, instead of that of 100 to 83, which has long since been found to be the relative proportions, both in the city and in the country.

In 1804 I discussed the census of Don Luis de las Casas, with persons who possessed great knowledge of the locality. Examining the proportions of the numbers omitted in the partial comparisons, it seemed to us that the population of the island, in

1791, could not have been less than 362,700 souls. This has been augmented, during the years between 1791 and 1804, by the number of African negroes imported, which, according to the custom-house returns for that period, amounted to 60,393; by the immigration from Europe and St. Domingo (5,000); and by the excess of births and deaths, which, in truth, is indeed small in a country where one-fourth or one-fifth of the entire population is condemned to live in celibacy. The result of these three causes of increase, was estimated at 60,000, estimating an annual loss of seven per cent. on the newly imported negroes; this gives approximately, for the year 1804, a minimum of 432,080 inhabitants.¹

¹ I estimated this number for the year 1804, to comprise, whites, 234,000, free-colored, 90,000, slaves, 180,000. (The census of 1817 has given, whites, 290,000, free colored, 115,000, and slaves, 225,000). I estimated the slave population, graduating the production of sugar at from 80 to 100 arrobes for each negro on the sugar plantations, and 82 slaves as the mean population of each plantation. There were, then, 250 of these. In the seven parishes, Guanajay, Managua, Batabanó, Güines, Cano, Bejucal, and Guanabacoa, there were found, by an exact census, 15,130 slaves on 183 sugar plantations.—(MSS. Documents, p. 134. *Representation of the Consulado of Havana, 10th July, 1799.*) It is difficult to ascertain correctly, the ratio of the production of sugar to the number of negroes employed on the estates, for there are some where barely 300 negroes produces 30,000 arrobes, while on others, 800 negroes produce only 27,000 arrobes yearly. The number of whites can be

The census of 1817 gives a population of 572,363, and this should be considered only as a minimum, corresponding with the results obtained by me, in 1804, and which have since been cited in many statistical works. The returns of the custom-houses alone show that more than 78,500 negroes were imported between 1804 and 1816.

The most valuable documents which we possess up to the present time (1825), relative to the population of the island, were published on the occasion of a celebrated motion made in the Spanish Cortes, on the 26th March 1811, by Señores Alcocer and Arguelles, against the African slave-trade in

estimated by the rolls of the militia, of which, in 1804, there were 2,680 disciplined, and 27,000 rural, notwithstanding the great facilities for avoiding the service, and the innumerable exemptions granted to lawyers, physicians, apothecaries, notaries, clergy and church servants, schoolmasters, overseers, traders, and all who are styled noble. See *Reflections of an Habanero upon the Independence of the Island*, 1823, p. 17. The number of men capable of bearing arms, between the ages of 15 and 60, was estimated, in 1817, as follows: 1st free class; whites, 71,047, mulattoes, 17,862, blacks, 17,246, total, 106,155; 2d slaves, 85,899, in all, 192,054. Taking as a basis, the estimate of the military enrolment of the population of France, (*Peuchat stat.* p. 243 and 247), we find that the number of 192,054 corresponds to a population somewhat less than six hundred thousand. The quota of the three classes, whites, free colored, and slaves, are as 37 : 18 : 45; while the relative proportions of the population are very nearly 46 : 18 : 36.—II.

general and the perpetual continuance of slavery in the colonies. These valuable documents are accompanied and sustained by the remonstrance¹ which Don Francisco de Arango (one of the wisest of statesmen, and profoundly versed in everything relating to his country), made to the Cortes, in the name of the Ayuntamiento, the Consulado, and the Patriotic Society of Havana. It is there stated that "there is no other general census than that which was taken (in 1791), during the wise administration of Don Luis de las Casas, and that since that time, some partial ones only have been taken in one or other of the most populous districts."

From this we learn, that the tables published in 1811, are founded on incomplete data, and on approximate estimates of the increase from 1791 to that time. In the following table the division of the island into four districts, has been adopted, as follows:—1st. The jurisdiction of Havana, or western part, between Cape San Antonio and Alvarez. 2d. The jurisdiction of Cuatro Villas, with its eight

¹ Representation of 16th August, 1811, which was made by the Alferez Mayor of Havana, under direction of the Ayuntamiento, Consulado, and Patriotic Society of that city, and laid before the Cortes by these corporations. This representation, or remonstrance, is contained in the *Documents relative to the slave-trade*, 1814, p. 1-86.—H.

districts. 3d. The jurisdiction of Puerto Principe, with seven districts. 4th. The jurisdiction of St. Jago de Cuba, with fifteen districts. The last three comprise the eastern part of the island.

	Whites.	Free colored.	Slaves.	Total.
WESTERN PART :				
Havana and Suburbs	43,000	27,000	28,000	98,000
Country	118,000	15,000	119,000	252,000
	<hr/>	<hr/>	<hr/>	<hr/>
	161,000	42,000	147,000	350,000
EASTERN PART :				
St. Jago de Cuba	40,000	38,000	32,000	110,000
Puerto Principe	38,000	14,000	18,000	70,000
Cuatro Villas	35,000	20,000	15,000	70,000
	<hr/>	<hr/>	<hr/>	<hr/>
	113,000	72,000	65,000	250,000
Totals	274,000	114,000	212,000	600,000

The peaceful relations of the several castes with each other, will always be a political problem of the greatest importance, until such time as a wise legislation shall succeed in calming their inveterate hatred, by conceding an equality of civil rights to the oppressed classes. In 1811, the number of whites in the island of Cuba exceeded that of the slaves by 62,000, and was only one-fifth less than the aggregate of free colored and slaves. The whites in the English and French Antilles are nine per cent., while in Cuba they are forty-five per cent. of the

total population. The free colored amount to nineteen per cent., which is double their proportion in Jamaica or Martinique. As the census of 1817, modified by the Provincial Deputation, only exhibits 115,700 free colored, and 225,000 slaves, the comparison proves—1st, that the free colored have been estimated incorrectly both in 1811 and 1817; and 2d, that the mortality of the negroes is so great that, notwithstanding the importation of more than 67,700 negroes from Africa, according to the custom-house returns, there were in 1817 only 13,300 more slaves than in 1811.

The decrees of the Cortes of 3d March, and 26th July, 1813, and the necessity of ascertaining the population, for the establishment of the electoral juntas of the province, the partido, and the parish, obliged the government to take a new census in 1817, which is as follow:

Census of 1817, exclusive of transient persons and negroes imported during the year.

Districts.	Whites.	Free colored.	Slaves.
Western Department :			
Havana	135,177	40,419	112,122
Matanzas	10,617	1,676	9,594
Trinidad (with Santi Espiritu, Remedios, and Villa Clara)	51,864	16,411	14,497

Districts.	Whites.	Free colored.	Slaves.
Eastern Department :			
Cuba (with Bayamo, Holguin, and Baracoa)	33,733	50,230	46,500
Puerto Principe	25,989	6,955	16,579
Total	257,380	115,691	199,292
In all	572,363.		

Though it may seem strange that the approximate estimate presented to the Cortes in 1811, shows a total population 28,000 greater than the actual census of 1817, this contradiction is only apparent. This census is doubtless less imperfect than that of 1791, yet it does not comprise all the population, because of the fear everywhere inspired in the people, by an operation which is always supposed by them to be not only direful, but the precursor of new taxation. On the other hand, the Provincial Deputation thought proper to make two modifications in the census of 1817, when sending it to Madrid : 1st, adding 32,641 whites (transient traders and crews of vessels), whose business call them to Cuba ; and 2d, adding 25,967 African negroes imported during the year 1817. By these additions the Provincial Deputation obtained a total population of 630,980, of which 290,021 were whites, 115,691 free colored, and 225,261 slaves.¹

¹ So far as my opinion goes, I believe that in 1825 there were

We shall not be surprised at the partial contradictions found in the tables of population in America, when we take into consideration all the difficulties that have been encountered in the centres of European civilization, England and France, whenever the great operation of a general census is attempted. No one is ignorant, for example, of the fact, that the population of Paris, in 1820, was 714,000, and from the number of deaths, and supposed proportion of births to the total population, it is believed to have been 520,000, at the beginning of the eighteenth century; yet, during the administration of Mon. Neckar, the ascertained population was one-sixth less than this number. It is known, that, from 1801 to 1821, the population of England and Wales increased 3,104,683, yet the registers of births and deaths show an increase of only 2,173,416; and it is impossible to attribute the difference of 931,267 to immigration from Ireland. These examples do not prove that we should distrust the calculations of

nearly 325,000 whites, and one the best informed gentlemen of Havana, who was well acquainted with the country, estimated them, in 1823, at 340,000. (See *On Independence of Cuba*, p. 17.) In some parts of the island statistical tables have been formed with great care; in San Juan de los Remedios, and Filipinas, for example, particularly those made by Don Joaquin Vigil y Quiñones and Don José Aguilar, in 1819.—H.

political economy; what they do prove is, that we should not employ numerical elements, without having first examined them, and ascertained the extent of their errors. One is tempted to compare the different degrees of probability presented by statistical tables in the Ottoman Empire, in Spanish and Portuguese America, in France or Prussia, by geographical positions based on the eclipses of the moon, on its distance from the sun, or on occultations of the stars.

In order to adapt a census made twenty years since, to any other given time, we must ascertain the rate of increase; but this can be ascertained only from the enumerations of 1791, 1810, and 1817, taken in the eastern part of the island, which is the least populous portion. When comparisons rest upon too small masses, existing under the influence of particular circumstances (as in seaports or in the sugar planting districts), they cannot give the numerical results proper to be used as a basis for the entire country.

It is generally supposed that the whites increase more rapidly in the villages and haciendas than in the towns; that the free colored, who prefer a make-shift residence in the towns to the labors of agriculture, multiply with greater rapidity than all the other classes; and that the slaves, among

whom, unfortunately, there are only one-third of the females required by the number of males,¹ decrease more than eight per cent., annually.

We have already seen² that in Havana and suburbs, the whites increased 73 per cent., and the free colored 171 per cent., in twenty years. Through nearly all the eastern part of the island, the same classes have nearly doubled in the same time. We will here mention that the free colored multiply, in part, through the transition from one class to the other, and the slaves increase through the activity of the slave-trade. At the present time, the whites receive but little increase through immigration from Europe, the Canary Islands, the Antilles, or the Continent; this class multiplies within itself, for *patents of white blood* are seldom granted by the tribunals to persons of light yellow color.

According to the census of 1775, the district of Havana, comprising six cities (the capital, Trinidad, San Felipe y Santiago, Santa Maria del Rosario, Jaruco, and Matanzas), six towns (Guanabacoa, Santi Espiritu, Villa Clara, San Antonio, San Juan de los Remedios, and Santiago), and thirty villages and hamlets, contained a population of 171,626; and in

¹ This applies only to those slaves employed on the sugar plantations.

² Chapter I., p. 114.

1806, with greater exactitude, 277,364. (*Patriota Americano*, vol. ii., p. 300.) Consequently, the increase, in thirty-one years, had been only sixty-one per cent.; but if we could compare the latter half of this term, it would show a much more rapid increase. In fact, the census of 1817 gives a population of 392,377, which shows an increase of forty-one per cent., in eleven years, for the same extent of country, then called the Province of Havana, comprising the districts of the capital, Matanzas, and Trinidad, or Cuatro Villas.

We must remember, while comparing the results of the censuses of 1791 and 1810 of the capital and of the eastern province, that we obtain an excessive rate of increase, for there were many more omissions in the first than in the second census. By comparing those most recently taken in the eastern province, in 1810 and 1817, I believe we approach nearer the truth. These are as follows:

	Whites.	Free Col'd.	Slaves.	Total.
1810	35,513	32,884	38,834	107,231
1817	33,733	50,230	46,500	130,463

Increase in six years 23,232, or more than twenty-one per cent.; and there is probably an error in the second statement of the number of whites, in the last census. The proportion of whites and free colored is very great in the district of Cuatro Villas,

where, in the six partidos of San Juan de los Remedios, San Augustin, San Anastasio de Cupey, San Felipe, Santa Fé, and Sagua la Chica, there were, in 1819, in an area of 24,651 *caballerias*, a total population of 13,722, of which 9,572 were whites, 2,000 free colored, and 2,140 slaves; while, on the contrary, in the ten partidos of the Filipinas district, in the same year, in a population of 13,026, there were 5,871 whites, 3,521 free colored; and 3,634 slaves. The proportion of free colored to white was as 1 to 1.7.

[NOTE.—Since the publication of the foregoing admirable analysis by Baron Humboldt, of the population of Cuba, censuses have been taken in the years 1827, 1841, and 1846, which are as follows:

CENSUS OF 1827.

Department.	Whites.		Free Colored.		Slaves.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	
Western,..	89,526	75,582	21,235	24,829	125,888	72,027	408,537
Central,...	53,447	44,776	18,296	10,950	28,398	13,630	164,497
Eastern,..	25,680	22,090	17,431	18,753	29,504	17,995	131,453
Total,...	168,653	142,898	51,962	54,532	183,290	103,652	704,486

CENSUS OF 1841.

Western,..	185,079	108,944	82,726	83,737	207,954	113,820	681,760
Central,...	60,085	53,888	15,525	16,054	34,939	15,217	195,608
Eastern, ..	82,080	28,365	27,452	27,844	38,357	26,708	180,256
Total,...	227,144	191,147	75,708	77,185	281,250	155,245	1,007,624

CENSUS OF 1846.

Department.	Whites.		Free Colored.		Slaves.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	
Western,..	133,968	110,141	28,964	32,730	140,131	87,682	533,616
Central,...	62,262	52,692	17,041	17,074	82,425	14,560	196,054
Eastern, ..	34,753	31,951	26,646	26,771	28,455	20,506	169,082
Total....	230,983	194,784	72,651	76,575	201,011	122,748	898,752

The slightest examination leads to the belief that there is some error in the figures of the census of 1846; and we are inclined to doubt its results, for the following reasons:

1st. During the period between 1841 and 1846, no great cause, as epidemic, or emigration on a large scale, existed to check the hitherto steady increase of the slave population, and cause a decrease of 112,736 in its numbers, being nearly twenty six per cent. of the returns of 1841; which apparent decrease, and the annihilation of former rate of increase (3.7 per cent., yearly), amount together to a loss of 47 per cent., in six years.

2d. During this period, the material prosperity of the country experienced no decrease, except the loss of part of one crop, consequent upon the hurricane of 1845.

3d. During the period from 1842 to 1846, the church returns of christenings and interments were as follows:

	Whites.	Colored.	Total.
Christenings, . . .	87,047	74,302	161,349
Interments, . . .	51,456	57,762	109,218
Increase, . . .	<u>35,591</u>	<u>16,540</u>	<u>52,131</u>

4th. And because, that, in addition to the reasons adduced by Baron Humboldt, for less returns by the people than their actual numbers, that the taking of a census "is always supposed by them to be not only direful, but the precursor of new taxation;" a capitation tax upon house servants was imposed in 1844, and a very general fear existed that it would be extended to other classes.

When the writer first went to Cuba, in 1834, he was strongly impressed with the popular supposition there, that the slave population diminished fully eight per cent. annually, by death, and that this loss was only partially compensated (about three per cent.), by the importation of negroes from Africa, which, at that time was not supposed to reach twelve thousand a year. At this period, the mean annual export of sugar was 550,000 boxes, and of coffee, 330,000 bags (the two great staples), and the mean annual value of imports was \$17,000,000, and of exports, \$14,000,000, according to the official valuations. During the seventeen years of our residence there, the annual export of sugar steadily increased until it exceeded 1,500,000 boxes; that of

coffee fell to 125,000 bags, and the value of imports and exports reached \$29,750,000 and \$27,450,000 respectively.

Admitting as correct the supposed annual loss of five per cent. to the slave or laboring population, the producing class must have diminished eighty-five per cent. from 1835 to 1852, a supposition directly at variance with the results exhibited by the commerce of the island. So far as our limited individual observation extended, we arrived at the conclusion that this supposition of loss arose from the fact that the greater part of capital and scientific knowledge in Cuba is absorbed in the sugar culture, and that the estimates regarding population were based, in a great measure, on data derived from this class and branch of labor. Its great preponderance in the foreign commerce of the island, overshadowed its true relation to the general economy of the country. We believe that the slave population of Cuba does not decrease in the towns, nor on the coffee estates, tobacco plantations, grazing farms, and numerous minor branches of agriculture, but that on the contrary, it increases in all these, and more than compensates for the loss on the sugar plantations. The supposed former rate of loss has been greatly diminished during the last twenty years, by the improvements in the system of con-

ducting the sugar plantations, and a greater equalization of sexes upon them. In no other way can we account for the rapid increase in the material prosperity of Cuba, an increase that is only surpassed by that of our own United States.

In estimating, therefore, the present population of Cuba, we shall adopt the rate of increase exhibited by the two censuses of 1827 and 1841. The first may be considered the minimum of population at that time, it being less than the well-reasoned estimate of Baron Humboldt for the year 1825: and although the second was perhaps taken with greater care, we know of no reason why it should not be held also as the minimum expression of the population. It was, at the time of publication, charged by well-informed writers, with understating numbers.

The annual rate per cent. of increase in the several classes of population, as indicated by the various censuses, is somewhat fluctuating, and is as follows:

	White.	Free colored.	Slaves.
1774 to 1792,....	2.7	4.2	5
1792 " 1817,....	3.1	4.4	5.4
1817 " 1827,....	2.1	0.68	4.4
1827 " 1841,....	2.5	3.1	3.7

The latter rate of increase would give to Cuba, at the close of the year 1855,

Whites,	564,693,	being 39 per cent.
Free colored, .	219,170,	" 15 "
Slaves,	662,599,	" 46 "
Total,	1,446,462	

This does not seem excessive, when we take into consideration her vast consumption of foreign products, and the great value of the staples she pours into the lap of commerce.]

CHAPTER VI.

SLAVERY.

Manumission frequent in Cuba—Its causes—Slaves allowed to hire their time. [NOTE—Usual wages—Number of working days—Slaves may purchase their freedom by partial payments—Many remain partially redeemed—Reason—Curious phase of negro mind.] Position of free negroes—Mild laws—Slaves previous to the Eighteenth century—Religious scruples regarding females—Population of Sugar plantations—Projects for increasing slaves—Don Francisco de Arango—Desire to ameliorate their condition—First importation—Entire importation to America in sixteenth century—Slaves in Cuba in 1763—Activity of trade at the close of the eighteenth century—Treaty with England. [NOTE—Total number imported.] Compared with Jamaica—Other English colonies (*note*)—Humane result in Cuba—Mortality of slaves—Has diminished—Of newly imported negroes—Means to prevent decrease—Abolition of slave-trade. [NOTE—Not effective—Baron Humboldt's sketch of slavery in Cuba—Decrease of slaves a fallacy—Increase only paralleled in United States—Their well-being evident—Chinese imported—Injurious influence and evil results.

IN no part of the world, where slavery exists, is manumission so frequent as in the island of Cuba; for Spanish legislation, directly the reverse of French and English, favors in an extraordinary degree the

attainment of freedom, placing no obstacle in its way, nor making it in any manner onerous. The right which every slave has of seeking a new master, or purchasing his liberty, if he can pay the amount of his cost; the religious sentiment that induces many persons in good circumstances to concede by will freedom to a certain number of negroes; the custom of retaining a number of both sexes for domestic service, and the affections that necessarily arise from this familiar intercourse with the whites; and the facilities allowed to slave-workmen to labor for their own account, by paying a certain stipulated sum to their masters, are the principal causes why so many blacks acquire their freedom in the towns.¹

¹ The customary rate of hire is ten cents on each \$100 of the value of the slave for every working-day. There are about two hundred and ninety working-days in the year, Sundays and church holidays being considered days of rest. In addition to the above-mentioned facilities for attaining freedom, the slave has the privilege of paying his master small sums of money on account, and thus becoming a coöwner of himself. Thus, if his value be \$600, by paying his master \$25 he becomes the owner of one twenty-fourth of himself; when he has paid \$50, he owns one-twelfth, and so on; and in hiring his time, he pays to his master rent only on the sum remaining due. The law obliges the master to accept these partial payments; and should the owner over-value the slave at the time of commencing them, the negro can appeal to the syndic, who is annually appointed to protect the slaves. A slave who has partially manumitted himself is styled *coartado*. Many redeem them-

The position of the free negroes in Cuba is much better than it is elsewhere, even among those nations which have for ages flattered themselves as being most advanced in civilization. We find there no such barbarous laws as have been invoked, even in our own days, by which free negroes are prohibited from receiving donations from the whites, and can be deprived of their liberty, and sold for the benefit of the State, should they be convicted of affording an asylum to escaped slaves.¹

Until the closing years of the eighteenth century, the number of slaves on the sugar plantations in Cuba was extremely small, and what most surprises us is, that a prejudice founded on “religious scruples,” opposed the introduction there of females (they costing in Havana one-third less than males), thus forcing

selves excepting the sum of \$50 or \$100; and on this pay a rent to the master for the rest of their lives, no matter how much wealth they may acquire. A careful study of individual reasons, among the blacks in Cuba, for adopting this course, might perhaps develop some unobserved peculiarities of the negro mind. It may sometimes arise from ties of affection, sometimes from interests, and it may be found to result, in some cases, from an intuitive desire, or an idiosyncrasy on the part of the negro to have some immediate and tangible superior, to whose opinion he can look with respect, and from whom he can claim protection in calamity.

¹ Decision of the Supreme Council of Martinique of 4th July, 1720.—“Decree of 1st March, 1766, § 7.—II.

the slaves to celibacy, under the pretext that vicious habits were thus avoided. The Jesuits and the Bethlehemite friars, being superior to this sad prejudice, were the only planters that allowed them on their plantations. Although the census of 1775, which is undoubtedly very imperfect, gave 15,562 female and 29,336 male slaves, we must bear in mind that this census embraced the whole island, while the sugar plantations, even at the present time (1825), do not contain more than one-fourth of the entire slave population.¹

From the year 1795, the Consulado of Havana

¹ The "Cuadro Estadistico" of 1846 presents some partial information on this point, which is interesting. It states the number of sugar plantations in the several departments of the island and their population, as follows:—

	Plantations.	Population.	Average.
Western	735	96,462	131
Central	404	28,763	59
Eastern	303	10,586	35
	—	—	—
	1442	130,816	

These numbers are undoubtedly under-stated; but estimating an average of ten per cent. as the white population of the sugar plantations, we have a slave population of 116,735, being nearly 18 per cent., engaged in the culture of sugar. It is to be regretted that the "Cuadro" does not state the relative numbers of males and females; but well-informed persons think the sugar plantations have now one-third females.

have seriously entertained projects for increasing the slave population, independent of the fluctuations of the slave-trade. Don Francisco de Arango, whose labors have always been pure and judicious, proposed the imposition of a tax upon those plantations which did not contain one-third females among their slaves. He also proposed the imposition of a duty of six dollars upon each male negro imported from Africa. Although these measures were not adopted, for the colonial juntas always refused to adopt coercive measures, yet, from that time, there has arisen a desire to increase the number of marriages, and to take better care of the children of the slaves; and a royal order (22 April, 1804) recommends this policy to "the sense of right, and the humanity of the colonists."

The census of 1817 gave, according to Poinsett, 60,322 female, and 106,521 male slaves. In 1771, the proportion of female to male slaves was 1 to 1.9; so that, in forty years, it had altered very slightly, it being, in 1817, 1 to 1.7. The small amount of this change must be attributed to the large number of African negroes imported subsequently to 1791, and to the fact that the importation of females has been large, only during the years between 1817 and 1820: the slaves retained as servants in the cities are only a small fraction of the total number. In the district of Batabanó, which contained in 1818 a population

of 2,078, with 13 sugar, and 7 coffee estates, there were 2,226 male, and 257 female slaves; proportion, 8 to 1. In San Juan de los Remedios, containing, in 1817, a population of 13,700, with 17 sugar, and 73 coffee estates, there were 1,200 male and 660 female slaves; proportion, 19 to 1.¹ In the district of Feli-pinas, having in 1819 a population of 13,026, there were 2,494 male, and 997 female slaves; proportion, 2.4 to 1. In all the island, the males are to the females as 1.7 to 1; on the sugar estates alone, they are barely 4 to 1.

The first introduction of negroes (in the eastern part of the island), occurred in 1521. At that time, the Spaniards were much less desirous than the Portuguese of possessing slaves; for, in 1539, twelve thousand negroes were sold in the city of Lisbon. The trade in slaves was not free in the sixteenth century, licenses for it being granted by the government; and, in 1586, Gaspar Peralta purchased the monopoly for the whole of Spanish America. In 1595, it was sold to Gomez Raynal; and again, in 1615, to Antonio Rodriguez de Elvas.

The entire American importation then did not exceed 3,500, yearly; and the people of Cuba, occupied exclusively in raising cattle, received very few. During the war of the succession, the French traders

¹ Thus in the original.

visited Havana, exchanging slaves for tobacco. The possession of the island by the English stimulated somewhat the importation of negroes; yet, in 1763, although the capture of Havana, and the presence of foreigners, created new wants, the number of slaves did not exceed 25,000 in that district, and 32,000 in the whole island.

The number of Africans imported from 1521 to 1763, was probably 60,000, whose descendants exist among the free mulattoes, the greater part of which inhabit the eastern part of the island. From 1763 to 1790, when the trade in negroes was thrown open, Havana received 24,875 (by the Tobacco Company 4,957 from 1763 to 1766; by the contract with the Marquis de Casa Enrile, 14,132, from 1773 to 1779; by the contract with Baker and Dawson, 5,786, from 1786 to 1789). If we estimate the importation of slaves in the eastern part of the island, during these twenty-seven years (1763 to 1790), at 6,000, we have a total importation of 90,875 from the time of the discovery of Cuba, or more properly speaking, from 1521 to 1790.

The activity of the slave-trade in the fifteen years following 1790, was so great, that more slaves were bought and sold in that time, than in the two and a half centuries that preceded its being thrown open. This activity was redoubled when England stipulated

with Spain, that the trade should be suppressed north of the equator from the 22d November, 1817, and totally abolished on the 30th May 1820. The King of Spain accepted from England (a fact which posterity will hardly believe), the sum of four hundred thousand pounds sterling, in compensation for the damages and loss which might arise from the cessation of this barbarous traffic.

The following statement exhibits the number of African negroes imported in Havana alone, according to the custom-house returns.

1790....2,534	1806....4,395
1791... 8,498	1807....2,565
1792....8,528	1808....1,607
1793....3,777	1809....1,162
1794....4,164	1810....6,672
1795....5,832	1811....6,349
1796....5,711	1812....6,081
1797....4,552	1813....4,770
1798....2,001	1814....4,321
1799 ...4,919	1815....9,111
1800....4,145	1816...17,737
1801....1,659	1817 ¹ .. 25,841
1802...13,832	1818...19,902
1803....9,671	1819...17,194
1804....8,923	1820....4,122
1805....4,999	— — —
Total, in 31 years,....225,574	

¹ Other MS. notes in my possession state the number for 1817, at 23,560 slaves.—H.

The mean annual number during this interval is 7,470, and 11,542 for the last ten years. This should be increased at least one-fourth, partly, because of the illicit importations, and omissions in the returns, and partly for the licit importations at Trinidad and St. Jago; so that we have for the whole island,

From 1521 to 1763.....60,000

" 1764 " 1790.....33,409

In Havana alone,

From 1791 to 1805.....91,211.

" 1806 " 1820.....131,829

316,449

Increase by the illicit trade and
by the importations in the eastern
part of the island, from 1791 to 1820,..

56,000

372,449

[NOTE.—In order to present in one continuous view the number of negroes carried to Cuba up to the latest returns accessible to us, we continue here the calculation by Baron Humboldt. From the reports of the British commissioners at Havana, we learn the following particulars, in relation to the trade subsequently to its suppression in 1820, by the treaty with England.

In 1821, twenty-six vessels arrived, bringing 6,415 slaves; and Mr. Jameson, one of the commissioners, states that to this amount one-half should be added for importations not ascertained by the commis-

sioners, and that he estimates the slaves imported during that year at 10,000.

The yearly reports of the commissioners give the following figures, up to 1828 :

1822.....	10 vessels arrived—estimated,	3,000
1823..... 4	" "	1,200
1824..... 17	" "	5,100
1825 14	" "	4,200
1826..... 11	" "	*3,000
1827..... 10	" "	*3,500
1828..... 28	" "	*7,000
		27,000
Add Mr. Jameson's estimate of one-half,.....		13,500
Making a total of.....		40,500

A report of the British consul at Havana, to the foreign office in London, gives the following statement of slaves imported into Cuba from 1829 to 1838 ; to which, he estimates, one-fifth should be added for non-ascertained importations :

1829.....	8,600	1834.....	11,400
1830.....	9,800	1835.....	14,800
1831....	10,400	1836.....	14,200
1832.....	8,200	1837.....	15,200
1833.....	9,000		—
		Total,.....	101,600
		Add one-fifth,.....	20,320
			—
			121,920

* These numbers are given by the commissioners, in their reports ; for the other years. the number of vessels arriving only is stated.

The importations from 1838 to 1853, according to the returns laid before the British House of Commons, were as follows:

1838.....	10,495	1846.....	419
1839.....	10,995	1847.....	1,450
1840.....	10,104	1848.....	1,500
1841.....	8,893	1849.....	8,700
1842.....	3,630	1850.....	3,500
1843.....	8,000	1851.....	5,000
1844.....	10,000	1852.....	7,924
1845.....	1,300 30 June, '53.....		7,329
			99,239

We may, therefore, estimate the total number of negroes imported into Cuba from the coast of Africa, as follows:

To 1820 according to Baron Humboldt,	372,449
1821 " " Mr. Jameson,	10,000
1822 to 1828	40,500
1829 to 1837	121,920
1838 to 30 June, 1853.....	99,239
	644,108] ¹

¹ While these pages were going through the press, we received from the British Foreign Office, through the kind attention of Hon. John Appleton, secretary to the legation of the United States at London, a copy of a parliamentary return to the British House of Commons, ordered to be printed on the 11th of April 1845, according to which, the importations of slaves in Spanish territory in

We have seen that Jamaica has received from Africa,¹ during these three centuries, 850,000 negroes; and, according to a more exact statement, nearly 677,000 in the one hundred and eight years, from 1700 to 1808, and yet that island contains now but 380,000 blacks and mulattoes, free and slave. The island of Cuba presents a more humane result,

America (Cuba and Porto Rico, the number for the latter being very small), from 1821 to 1843 inclusive, amounted to	75,653
If to this number we add importations to 1820,	
according to Baron Humboldt,	372,449
1844 to June 30, 1853, as above,.....	47,122
We have a total of	495,224

This number is largely exceeded by the estimate we have given above. The several parliamentary returns before us do not agree with each other, nor with the reports of the British commissioners at Havana. With the exception of those for the term from 1832 to 1837, our figures have been obtained from the annual reports of the Havana commissioners to the British government, and represent the maximum of slave importations in Cuba. Through the same polite attentions, we learn that the number of slaves illegally imported into Cuba, during the years 1853 and 1854, has been 12,500, and 10,230, respectively.

¹ All the English colonies in the Antilles, which at the present time contain only about 700,000 blacks and mulattoes, free and slave, have received, in one hundred and six years, from 1680 to 1786, as is shown by the custom-house returns, 2,130,000 negroes from the coast of Africa.—H.

for it contains 130,000 free colored, while Jamaica has only 35,000, with a population of one-half greater. Cuba has received from Africa,

Previous to 1791	93,500
From 1791 to 1825, at least ...:	320,000
	413,500

In 1825, in consequence of the small number of females brought by the traders, there existed in the island only,

Negroes, free and slave	320,000
Mulattoes	70,000
	390,000

A similar calculation was sent to the Cortes of Spain, on the 20 July 1811, based upon numerical elements differing slightly from these, in which it was endeavored to prove that the island of Cuba had received up to 1810, less than 229,000 African negroes,¹ which are represented, in 1811, by a slave

¹ According to a note published by the Consulado of Havana (Papal Periodico, 1801, p. 12), it is estimated that the average cost of the 15,647 African negroes, imported from 1797 to 1800, was \$375, each. At this rate, the 307,000 imported from 1790 to 1823, will have cost the inhabitants of the island the sum of \$115,125,000.—H.

and free population of blacks and mulattoes, amounting to 326,000; being an excess of 97,000 over the number imported.¹ When it is remembered that the whites have contributed to the existence of 70,000 mulattoes,² leaving aside the natural increase that has resulted from so many thousand negroes progressively imported, one exclaims, "What other nation, or human society, can give so favorable an

¹ My calculation closes with 1825, and the number of negroes imported since the *conquest* amounts to 413,500. The calculation sent to the Cortes closes with 1810, and gives 229,000. (*Documentos*, p. 119.) Difference, 184,500; but, according to the returns of the Havana custom-house alone, the number of African negroes brought to that port from 1811 to 1820, has been 109,000, and to this we must add, 1st, according to the principles admitted by the consulado, one-fourth or 27,000, for the licit importations at other ports of the island; and, 2d, the amount of illicit traffic, from 1811 to 1825.—H.

² The work undertaken by the consulado, in 1811, relative to the probable distribution of 326,000 blacks, free and slave, contains some very interesting matter, which great local knowledge alone could have supplied to that body. A. *Cities*. Western part.—In Havana, 27,000 free colored, and 28,000 slaves; seven towns, with Ayuntamiento, 18,000; from which we have, in the jurisdiction of Havana, 36,000 free colored, and 37,000 slaves. Eastern part, 86,000 free colored, and 32,000 slaves. Total, in the cities, 72,000 free colored, and 69,000 slaves, or 141,000. B. *Country*.—Jurisdiction of Havana, 6,000 free colored, and 110,000 slaves. Eastern part, 36,000 free colored, and 33,000 slaves. Total, in the country, 185,000.—*Documentos sobre los negros*, p. 121.—H.

account of the results of this *unfortunate trade!*" I respect the sentiments that have dictated these lines, and will again repeat, that if we compare Cuba with Jamaica, the results appear in favor of the Spanish legislation, and the customs of the inhabitants of Cuba. These comparisons demonstrate a state of affairs in the latter island infinitely more favorable to the physical preservation and manumission of the negroes; but what a sorrowful spectacle is presented by Christian and civilized nations disputing which of the two, in three centuries, has destroyed the least number of Africans, by reducing them to slavery!

I will not praise the treatment of the negroes in the southern portion of the United States,¹ but certain it is, that different degrees exist in the sufferings of the human species. The slave who has a cabin and a family, is not so unhappy as he who is folded as if he were one of a flock of sheep. The greater the number of slaves established with their

¹ See "*Negro slavery in the United States of America and Jamaica,*" 1823, p. 31, as to the comparative state of misery between the slaves of the Antilles, and those of the United States. In 1823 Jamaica had 170,466 males, and 171,916 females; the United States, in 1820, had 788,020 males, and 750,100 females. It is not, therefore, the disproportion between the sexes that causes the absence of natural increase in the Antilles.—H.

families, in cabins which they deem their own, the more rapid is their multiplication. The slaves in the United States were as follows:—

1770....	480,000	1810....	1,191,364
1791...	676,696	1820....	1,541,568
1800....	894,444		

The annual increase¹ for the last ten years, has been (without counting the manumission of 100,000), 26,000, which is doubling in 27 years. I will say, therefore, with Mr. Cropper,² that if the slaves in Jamaica and Cuba had multiplied in the same proportion,³ these two islands would have had, one

¹ The increase of the slaves from 1790 to 1810 (514,668), arises as follows:—1st. The natural increase in the families; 2d. The importation of 30,000 negroes, between 1804 and 1808, which was, unhappily, permitted by the Legislature of South Carolina; 3d. The acquisition of Louisiana, where there were 30,000 negroes. The increase from the last two causes has been only $\frac{1}{2}$ of the total increase, and has been compensated by the manumission of more than 100,000 negroes, who, in 1810, ceased to appear in the slave returns. The slaves multiply somewhat less rapidly (the exact proportion being 0.02611 to 0.02915), than the total population of the United States; but their multiplication is more rapid than that of the whites, wherever they form a considerable portion of the population, as in the southern states. (*Morse's Mod. Geogr.* 1822, p. 608.)—H.

² Letter addressed to the Liverpool Society, 1823, p. 18.—H.

³ The number of 480,000, in the year 1770, is not based upon an actual census, it being only an approximate estimate. Albert

in 1795, and the other in 1800, very nearly their present population, without any necessity of loading 400,000 negroes with chains, in Africa, and dragging them to Port Royal or Havana.

The mortality of the negroes varies greatly in Cuba, according to the kind of labor, the humanity of the masters or overseers, and the number of women employed in taking care of the sick. I have

Gallatin thinks that the United States, which, at the close of 1823, had a population of 1,665,000 slaves, and 250,000 free colored, being a total of 1,915,000 blacks and mulattoes, never received from the coast of Africa over 300,000 negroes, that is to say, 1,183,000 less than those received from 1680 to 1786, by the English Antilles, the black and mulatto population of which, now barely exceeds one-third part of that of the United States.—H.

Mr. Carey, of Pennsylvania, in his work on the slave-trade, says, "the trade in negro slaves to the American colonies was too small to attract attention." After a close argument from the ratio of increase since the first census, Mr. C. is enabled to recur back, and compute the population at earlier periods, separating the native born from importations. Setting out with the fact that the slaves (blacks), numbered 55,850 in 1714, he finds that there were brought, of these,

From Africa,	30,000
Importation from 1715 to 1750.....	90,000
" " 1751 " 1760.....	35,000
" " 1761 " 1770.....	74,000
" " 1771 " 1790.....	34,000
" " 1790 " 1808.....	70,000
Total number imported,.....	<u>383,000</u>

Compend. of Census of U. States, 1850, p. 83, note.

heard discussed with the greatest coolness, the question whether it was better for the proprietor not to overwork his slaves, and consequently have to replace them with less frequency, or whether he should get all he could out of them in a few years, and thus have to purchase newly imported Africans more frequently. But these are the reasonings of avarice when one man holds another in servitude.

It would be unjust to deny that the mortality of the blacks has diminished greatly in Cuba, within the last fifteen years. Many proprietors have studied how they might best improve the rules of their plantations. The mean mortality of the newly imported negroes is still from ten to twelve per cent.,¹ and from observations made on several well conducted sugar plantations, it may fall to even six or eight per cent. This loss among the newly imported negroes varies much according to the time of their arrival; the most favorable season for them is from October until January, those being the most healthy months, and most abundant in provisions on

¹ We are assured that in Martinique, where there are 78,000 slaves, the mean mortality is 6,000, while the births are barely 1,290, yearly. Before the cessation of the slave-trade, Jamaica lost annually, 7,000, or 2½ per cent.; since that time, the diminution of the population is scarcely perceptible.—*Review of the Registry Laws by the Com. of the Afric. Inst.* 1820, p. 43.—H.

the plantations. In the hot months, the mortality *during the sale* is sometimes four per cent., as was the case in 1802.

An increase in the number of female slaves, so useful in the care of their husbands and their sick companions; their relief from labor during pregnancy; greater attention to their children; the establishment of the slaves by families in separate cabins; an abundance of food; an increase in the number of days of rest; and the introduction of a system of moderate labor for their own account, are the most powerful and the only means to prevent the diminution in numbers of the blacks. Some persons who are well informed as to the old system on the plantations, believe that in the present state of things, the number of slaves would diminish five per cent. annually if the contraband traffic should entirely cease. This diminution is nearly equal to that of the English Lesser Antilles, except Santa Lucia and Granada. These last, forewarned by the discussions in Parliament, took measures to increase the importation of females. The abolition of the African slave-trade in Cuba has been more prompt and more unexpected

[NOTE.—The illustrious author's anticipations in regard to the cessation of the African slave-trade in

Cuba, have not been realized; it being matter of public notoriety that it is still carried on there on a large scale, with the connivance of the government, and in flagrant opposition to the known wishes of the great majority of the Cubans. His sketch of slavery, as it exists in that island, is worthy the careful attention of men of every opinion regarding the institution itself. We have spoken elsewhere¹ of what we deem the fallacy of the decrease of the slaves in Cuba by death; but a conclusive argument on this point is presented in the fact that while, by a liberal computation, there have been imported into Cuba 644,108 Africans, there are now in that island 662,599 slaves, and 219,170 free blacks, making a total of 881,769 Africans and their descendants, while in all the English Antilles an importation of 2,130,000 negroes was represented by 700,000 in 1825.—(See note to p. 192, chap. V.) This result has only been paralleled in the Southern States of our own confederacy, for even in the free negro islands of the American Mediterranean, we are led, by the best information we can obtain, to suppose that the black population, as well as the white, experiences a constant decrease. If it be true that population can increase only under a con-

¹ See note at the close of Chapter V.

dition of physical well-being, and that a decrease denotes a condition of physical suffering, the situation of the negro in Cuba must be vastly superior to that of his own race in the free islands. That his moral condition exhibits the same result we believe will be admitted by every impartial traveller in the two countries.

Another element has been introduced in the population of Cuba, by the importation of several thousands of Chinese, who are contracted to labor on the sugar estates for a period of years, at prices far below the usual value of labor in the island. The class of persons contracted with is usually the lowest of the low in the crowded sea-ports of China. No females are brought, and they are thus forced to amalgamate with the slave population, to whom they bring neither honest principles nor good morals. No one who for a moment contemplates the inevitable consequences of this resort of English philanthropy to remedy its social errors, can doubt its results; the amalgamation of unequal and dissonant races of men in their most degraded condition, can only be productive of the greatest moral and social evils to the community upon which it is forced.]

CHAPTER VII.

RACES.

But two now in the Antilles—Indians have disappeared—Confusion of early historians relative to their numbers—Character of estimates by early voyagers—Why Cuba might not have been as populous as represented—Cruelties of first settlers—Early mode of computing population—Movement of colonization in Cuba—Law of proportion of races—Havana—Cuatro Villas—Puerto Principe—St. Jago de Cuba—Density of population—Populous and uninhabited districts—Impossibility of the military defence of the island—Intellectual culture—Intelligence of the Habaneros—Apparent distance from Europe diminished—Declining influence of the old Spaniards—Admirable institutions in Havana—The necessity of reform.

As the primitive population of the Antilles has entirely disappeared (the Caribbean *zambos*, a mixture of natives and blacks, having been removed from the island of San Vicente to Ratan, in 1796) we must consider their present population (2,850,000), as being entirely of European and African blood. The pure blacks form nearly two-thirds of it, the whites one-sixth, and the mixed races one-seventh. In the Spanish colonies on the continent, we find

the descendants of the Indians who have disappeared among the *mestizos* and *zambos* (crossings of Indians with whites and blacks), but this consoling fact does not present itself in contemplating the Antilles. Such was the state of society there, at the beginning of the sixteenth century, that the colonists did not mix with the natives, as do the English in Canada, except in rare instances.

The Indians of Cuba have disappeared like the Guanches of the Canary Islands, although in Guanabacoa, and in Teneriffe, within forty years, we have seen some fallacious pretences renewed, by which many families drew small pensions from the government, under the pretext that Indian, or Guanche blood circulated in their veins. No means now exist to arrive at a knowledge of the population of Cuba, or Haiti, in the time of Columbus; but how can we admit what some, in other respects judicious historians, state, that when the island of Cuba was conquered in 1511, it contained a million inhabitants, of whom 14,000 only remained in 1517? The statistical information which we find in the writings of the bishop of Chiàpa (*Las Casas*), is filled with contradictions, and if it be true that the good Dominican friar, Luis Bertram (who was persecuted by the grantees, as the Methodists in our days are by some English planters), predicted, on his return to

Spain, that "the 200,000 Indians now in the island of Cuba, will perish, victims to the cruelty of the Europeans," we must conclude that between the years 1555 and 1567, the indigenous race was far from being exterminated. Yet, according to Gomara (such is the confusion of the historians of that time), there was not one Indian in Cuba after 1553.

That we may form some idea of the vague character of the estimates made by the early Spanish voyagers, at a time when no knowledge existed of the population of a single province in Spain, we need only recur to the fact that the number of inhabitants which Captain Cook and other navigators estimated for Tahiti and the Sandwich Islands, varies from one to five, and that, too, at a period when statistics afforded exact means of comparison. It is easily perceived that Cuba, surrounded with banks abounding in fish, and having an extremely fertile soil, might have maintained many millions of those Indians, who were so abstemious that they did not taste of flesh, and cultivated only corn, yuca, and other alimentary roots. But had the population been so great, would it not have evinced a more advanced civilization than is revealed in the narrative of Columbus? Were the inhabitants of Cuba less civilized than those of the Lucayo Islands?

However active we may suppose the destructive

causes to have been, the cruelty of the conquerors, the brutality of the governors, the too severe labors of the gold washings, the ravages of the small pox, and the frequency of suicide, we can hardly conceive how, in thirty or forty years, I will not say a million, but even three or four hundred thousand Indians could become entirely extinct. The war with the cacique Hatuey was of short duration, and confined entirely to the eastern part of the island. Few complaints were made against the administration of the first two Spanish governors, Diego Velasquez and Pedro de Barba. The oppression of the natives began in the year 1539, with the arrival of the cruel Hernando de Soto.¹ Supposing Gomara to be correct in stating that there were no Indians fifteen years later, when Diego de Majariegos was governor (1554-1564), we must suppose that those who escaped to Florida in their pirogues,

¹The researches of Don Juan Bantista de Muñoz, in the archives of Seville, have shown that cruelty to the Indians began very soon after the conquest. The revolting atrocities committed by Vasco Porcalla, in 1521, are cited by Sagra, and as early as 1534, the Cuban officials, in their letters to the emperor, asked for "7,000 negroes, that they might become inured to labor before the Indians ceased to exist." The mania of suicide to escape the labor imposed upon them, was common among the Indians long before the time of Hernando de Soto.—(See Sagra, *Historia Fisica, Politica y Natural*, large 8vo. Apend. pp. 8-26.)

believing, as tradition tells us, that they were returning to the land of their ancestors, must have comprised a very considerable remnant of the population. The mortality observed among the negro slaves in the Antilles, in our days, may throw some light on these contradictory statements.

Cuba must have seemed very populous to Columbus and Velasquez, if it was as well populated as when the English landed in 1762. Early voyagers are easily deceived by appearances, because they estimate the population from the numbers of people that the apparition of European vessels brings down to the shore. But we know that the island of Cuba, with the same towns and villages that it now possesses, did not contain over 200,000 inhabitants, in 1762; and even in a country where the people are treated like slaves, exposed to brutal masters, to excessive labor, ill-fed, and subject to the ravages of the small pox, forty-two years are not sufficient that the land should retain only the memory of their misfortunes. In many of the Lesser Antilles, which are held by the English, population diminishes at the rate of five or six per cent., annually; and in Cuba, more than eight per cent.; but the entire destruction, in forty-two years, of two hundred thousand, supposes an annual loss of twenty-six per cent., which is incredible, although we suppose the mortality of the

Indians to have been much greater than that of negro slaves, purchased at high prices.¹

In studying the history of Cuba, we perceive that the movement of colonization has been from east to west, and that there, as in all the Spanish colonies, the regions first settled are those which are now least populous. The first settlement of the whites occurred in 1511, when the *Poblador y Conquistador* Velasquez, under orders from Don Diego Columbus, landed at Puerto de las Palmas, near Cape Maysi, then called Alpha and Omega, and subjugated the Cacique Hatuey, who had fled from Haiti to the eastern part of Cuba, where he became the chief of a confederation of several smaller native princes. In 1512 the city of Baracoa was founded, and soon afterwards St. Jago de Cuba (1514), Bayamo, Trinidat, Santi Espiritu, and Havana. The latter city was founded in 1515, on the southern coast of the island, in the partido of Güines, and four years later, was transferred to the Puerto de Carenas, the position of which, near the entrance of the two Bahama channels (the old and the new), seemed much more favorable for commerce than the coast southeast of Batabanó.

¹ Thus in the Spanish version, and in the original French. It is manifestly an arithmetical error.

Since the sixteenth century, the progress of the country has had a powerful influence on the relations of the several classes of population to each other, which vary in the grazing districts, and in those where the country has been long since cleared ; in the seaports and in the country towns ; in the districts where the colonial staples are planted, and in those which produce corn, vegetables and forage.

I. The district of Havana experiences a decrease in the relative white population of the capital, and its vicinity, but not in the interior towns, nor in the entire *Vuelta de Abajo*, where the tobacco plant is cultivated by free labor. In 1791, the census of Don Luis de las Casas gave to the district of Havana 137,800 souls, in which the proportion of whites, free colored, and slaves were as 53 : 20 : 27. More recently, in 1811, when the importations of slaves were very large, these proportions were estimated as 46 : 12 : 42.

In the districts containing the large plantations of sugar and coffee, which are the districts of great agricultural labor, the whites form barely one-third of the population, and the proportions of class (taking this expression in the sense of the proportion of each to the total population), oscillates, for the whites, between 30 and 36; for the free colored, between 3 and 6; and for the slaves, between 58 and

67; while in the districts of the *Vuelta de Abajo*, where tobacco is grown, it is found to be as 62 : 24 : 14; and in the grazing districts even, as 66 : 20 : 14. From these calculations, it would seem that where slavery exists, the proportion of free persons diminishes as population and refinement advance.

[NOTE.—The relative proportions of class in the several districts here cited by Baron Humboldt, are stated as follows, in the censuses of 1841 and 1846 :

	1841.	1846.
Western department,..	39 : 10 : 51	46 : 12 : 42
Sugar district,.....	39 : 6 : 55	34 : 5 : 61
Tobacco district,.....	57 : 12 : 31	54 : 16 : 30
Grazing do.	59 : 15 : 26	57 : 18 : 25

By this table, we perceive that the law of proportion exhibits nearly the same relative numbers stated by Baron Humboldt, and that the relative proportions have slightly changed, with the increased wealth of the island. We have elsewhere stated our want of confidence in the returns of 1846, and the above table indicates where they may err in their stated decrease of the slave population. While this has not decreased in the sugar, tobacco, or grazing districts, the returns for the whole department show

a diminution in the total number of slaves. The capitation tax laid on house servants, in 1844, affords a partial reason for these diminished returns.]

II. The progress of population is more exactly known in the central and eastern portions of the island, than in the western department. That of the Cuatro Villas district has resulted from another class of industry. In Santi Espiritu, where the grazing *haciendas* increase, and in San Juan de los Remedios, where an active contraband trade is carried on with the Bahama Islands, the proportion of whites has increased between the years 1791 and 1811; while in the eminently fertile district of Trinidad, where the sugar culture has increased in an extraordinary degree, it has diminished.

[NOTE.—The law of population here expressed, still obtains in these districts. In 1841 the relative proportions of white, free colored, and slaves, were—

Santi Espiritu	65 : 15 : 20
Remedios	63 : 20 : 17
Trinidad	37 : 22 : 41.]

III. In the district of Puerto Principe the entire population has been nearly doubled in twenty years, and the white has increased eighty-nine per cent., as in the best portion of the United States. Yet the

vicinity of Puerto Principe is nothing more than vast plains, where half wild cattle are pastured. The proprietors, says a modern traveller, are only assiduous to put in their chests the money brought by the overseers from their cattle-farms, from whence they bring it forth only for the purposes of play, or to carry on law-suits which have been handed down from generation to generation.

[NOTE.—Amid the general prosperity of Cuba, this district now presents the anomaly of a constantly decreasing population, the returns of the last three censuses being as follows:—

	Whites.	Free colored.	Slaves.
1827.....	39,375	6,911.....	15,704
1841...	30,104	7,599.....	13,383
1846.	23,006	7,403.....	10,827

We have never been able to obtain a satisfactory explanation of this fact; perhaps it may arise from the low ratio of profit from the grazing farms, when compared with other branches of labor, and the want of roads and means of communication in the district, which have combined to cause the population to remove to more favored localities. The recent completion of a railroad from the city of Principe to the port of Nuevitas, and a newly-awakened spirit of enterprise among the landed

proprietors, will, it is hoped, change this state of things.]

IV. In the district of St. Jago de Cuba, considered as a whole, the proportions of the different classes have experienced little alteration during the last twenty years. The partido of Bayamo is notable for the large number of free colored (44 per cent.), which increases yearly, as also in Holguin and Baracoa. In the vicinity of St. Jago the coffee plantations prosper and show a very considerable increase in the slaves.

[NOTE.—The law of population in this department has experienced little change since the time of Baron Humboldt's researches, with the exception of the district of Holguin. This district, situate on the north side of Cuba, possesses a very large stretch of the best agricultural lands, while its fine harbors, and clear coast, make it easily accessible to commerce. It has entered upon a career of agricultural labor, that holds out the most golden promise of reward; and the law of its population begins to assimilate to that of the Western department, which it may rival in agricultural prosperity.]

In the official documents published at Havana, an attempt has been made to compare the density of

the population with that of the least populous portions of France and Spain. As the true area of the island was not then ascertained, these calculations have been inexact. We have already seen that the whole island has nearly two hundred inhabitants to the square league (in 1825); this is one-fourth less than Cuenca, the least populous province of Spain, and four times less than the higher Alpes, the least populous department of France.¹

¹ Estimating the present population of Cuba by the *pro rata* of increase shown by the censuses of 1827 and 1841, the number and density of inhabitants at the close of 1855 is approximately as follows :—

Department.	Population.	Area, Square Miles.	Density.
Western.....	966,000	8,077	120
Central	230,000	14,898	16
Eastern.....	250,000	11,258	22
Total.....	1,446,000	34,233	42

Making the present density about 378 inhabitants to the square league. The density of the Western department approximates very nearly to that of Massachusetts; that of the Central department to Georgia; and that of the Eastern to Tennessee, as exhibited by the census of 1850. The number of inhabitants to the square mile in the principal countries of Europe, is as follows :—

Belgium,	388	Prussia,	151
England,	322	Austria,	142
Holland,	259	Denmark,....	102
France,	178	Portugal,	95
Switzerland,	160	Spain,	78

The population of Cuba is so unequally distributed, that we may consider five-sixths of the island as uninhabited. There are several parishes (Consolacion, Macuriges, Hanabana), in which there are barely fifteen inhabitants to the square league; while, on the other hand, in the triangle between Bahia Honda, Batabanó, and Matanzas (or, more correctly stated, between the Pan of Guajaibon, Batabanó, and Guamacaro), there are 300,000 inhabitants in 410 square leagues, or in one-ninth of the total area of the island; this is three-sevenths of its population, and six-sevenths of its agricultural and commercial wealth. Yet this triangle contains only 732 inhabitants to the square league, its extent being somewhat less than that of two of the medium departments of France, and its density of population one-half smaller. We should remember, that even in this small triangle between Guajaibon, Batabanó, and Guamacaro, the southern portion is entirely uninhabited.

The least populous parishes, containing only grazing farms, are those of Santa Cruz de los Pinos, Guanacape, Cacaragicaras, Pinal del Rio, Guane, and Baja, in the *Vuelta de Abajo*, and Macuriges, Hanabana, Guamacaro, and Alvarez, in the *Vuelta de Arriba*.¹ The *hatos* (large cattle farms), with

¹ These districts of the *Vuelta de Arriba* have now become the

1,600 or 1,800 caballerias of uncultivated land, are gradually disappearing; and, if the new settlements at Guantanamo and Nuevitas have not experienced the rapid growth which had been anticipated, others, as for instance that of Guanajay, have been very prosperous. (*Expediente de Don Francisco de Arango, 1798, MSS.*) In the preceding pages, I have stated with what facility the population of Cuba may increase in future years. Being myself a native of the cold North, that partakes in a small degree of Nature's bounty, I remember that the mark of Bradenburg, which is in a great degree sandy, maintains, thanks to an administration favorable to agriculture and industry, a population twice greater than that of Cuba, on an area three times smaller than hers.

The unequal distribution of the population, the want of inhabitants on a great part of the coasts, together with the great extent of these, make the military defence of the island an impossibility; for, neither the contraband trade, nor the debarkation of an enemy can be prevented. Havana is, undoubtedly, a strongly fortified place, its works rivalling

great seat of the sugar culture, and are both populous and prosperous. They are intimately connected with Havana, and with the ports of Matanzas and Cardenas, by a well-devised system of railway.

those of the most important cities of Europe; the small towers and forts of Cojima, Jaruco, Matanzas, Mariel, Bahia Honda, Batabanó, Jagua, and Trinidad, may offer a longer or shorter resistance, but nearly two-thirds of the island has no defence whatever; for however active the service of gun-boats may be, it could never be of much importance.

Intellectual cultivation, limited entirely to the whites, is distributed with the same inequality as the population. The intercourse of the best society of Havana resembles, in its polite forms and urbanity, that of Cadiz and the richest commercial cities of Europe; but as we leave the capital, and its neighboring plantations inhabited by wealthy planters, we notice the contrast presented by a state of partial and local civilization, with the simple habits and customs that obtain in the small towns and isolated haciendas.

The Habaneros have been the first among the rich Spanish colonists to travel in Spain, France, and Italy. Nowhere are the politics of Europe, and the springs which sustain or overturn a ministry, better understood than in Havana. This knowledge of passing events, and a foresight of the future, have been of great advantage to the inhabitants of Cuba, in freeing them from the difficulties which delay the advance of colonial prosperity. In the

interval of time elapsed from the peace of the Versailles to the revolution of St. Domingo, Havana has seemed ten times nearer to Spain than Mexico, Caraccas, or New Granada. During my residence in the colonies, fifteen years later, this apparent inequality had already become greatly diminished. At the present time, when the independence of the continental colonies, the importation of the products of foreign industry, and the outflow of the coinage of the new States, have increased the intercourse between Europe and America; when distance is so much diminished by improvements in navigation, and the inhabitants of Mexico, Colombia, and Guatemala, rival each other in visiting Europe, the greater part of the old colonies of Spain, at least those washed by the Atlantic, seem also to be much nearer to our continent.

Such are the changes produced in a few years, and which are extending in an extraordinary degree, by the diffusion of knowledge, and by an activity which had been long repressed, that the contrasts of manners and civilization, which I had observed in the beginning of the present century, in Caraccas, Bogotá, Quito, Lima, Mexico, and Habana, have become less apparent. The influence of the original Basques, Catalans, Gallegos, and Andalusians is daily becoming less; and at this time it would be,

perhaps, unjust to draw the distinctions of national refinement in the six capitals I have just named, as I had intended doing in another place.

The island of Cuba has no great and sumptuous establishments, whose foundation dates from a time long anterior to those of Mexico; but Havana possesses institutions which the patriotism of the inhabitants, stimulated by a praiseworthy rivalry with the other centres of American civilization, may enlarge and perfect, when political affairs and public confidence in the preservation of domestic repose shall permit it.¹

The Patriotic Society of Havana (founded in 1793), those of Santi Espiritu, Trinidad, and Puerto Principe, which are branches of that at Havana;² the University, with its professorships of Theology, Jurisprudence, Medicine,³ and Mathematics, founded in 1728, in the

¹ This was written at a time when the Congress of American nations at Panama, and the conspiracy of the "Soles de Bolivar" in Cuba, inspired serious doubts of the stability of the Spanish power there.

² These societies were suppressed a few years since, and their functions merged in the Junta de Fomento.

³ In 1825, there were, in Havana alone, more than 500 licensed physicians, 333 surgeons, *latinos y romancistas* (surgeons and barbers), and 100 apothecaries. At the same time, there were, in the whole island, 312 lawyers (of which, 198 were in Havana), and 94 notaries. The number of lawyers has greatly increased since 1814, when there were only 98 in Havana, and 130 in all the island.—H.

Dominican monastery;¹ the chair of Political Economy, established in 1818, of Agricultural Botany, the School of Descriptive Anatomy and Museum, due to the enlightened zeal of Don Alejandro Ramirez, the public Library, the Free School of Drawing and Painting, the Nautical Academy, the Lancasterian schools, and the Botanical Garden, are noble institutions, partly new and partly old, some of which are susceptible and worthy of improvement, and others need a complete reform to bring them into harmony with the wants of society and the spirit of the age.

¹The clergy of Cuba is neither numerous nor rich, excepting the bishop of Havana, and the archbishop of Cuba; the first has \$110,000, and the latter \$40,000 annual income.* The prebendaries have \$3,000 a year. The number of ecclesiastics does not exceed 1,100, as appears by the official census which I possess.—H.

*This has been greatly diminished by the expropriation of the church property.

CHAPTER VIII.

SUGAR CULTURE.

Historical summary—Export of sugar from Havana to 1824—From Cuba to 1852—Estimates of actual product—Wealth of Cuba compared with the Antilles—St. Domingo—Brazil—Effect of political disasters on prices—Relative position of Cuba—Classes of sugar—Numerical elements of sugar planting—Value of land—Number of hands to a plantation, and their food—Machinery—Cost, product, and expense of a sugar plantation in 1825. [NOTE—In 1855—Compared—Causes of increased product.]—Mean yield of land in sugar-cane, maple, and beet—Proportions of crystallizable sugar—Different results in manipulations of cane-juice—Where improvements must be sought—Yield of cane in new and old lands—Compared with wheat—Yield in Bengal—Disproportion of results in agriculture in Cuba and France—First beet-root sugar in Havana—Fears entertained—Changes in sugar culture—Increase—First cane planted in America—Several classes—Supposition of sugar-makers—Otaheitan cane has not degenerated—Want of fuel—Application of bagass—Wood and bagass compared—Experiments and inventions—Suggested by the author's residence at salt-works—Error in Europe relative to the effect of cessation of slave-trade—Number of slaves in sugar culture—In towns—Capture of Havana by the English, and its good effects—Causes of prosperity—Evils of government embarrass it.

WHEN the Spaniards first settled in the islands, and on the continent of America, they began, as in

Europe, to cultivate the principal articles necessary for the sustenance of man. This system of agricultural life among the people, is the most natural, and is that which inspires society with the greatest confidence, and it has been preserved in Mexico, Peru, and the temperate and cold regions of Cundinamarca, where the power of the whites has extended over a vast expanse of country. Several alimentary plants, as the plantain, yuca, maize, the cereals of Europe, and the potato, have been, at different elevations above the level of the sea, the basis of continental agriculture within the tropics. Indigo, cotton, coffee, and the sugar-cane, are found only in scattered groups in those countries.

The same was the case in Cuba, and the other islands of the Antilles, for two and a half centuries. The same plants which had served to maintain the half-savage Indian, were cultivated there, and the vast plains of the larger islands were filled with numerous herds of cattle. In 1520 Pedro de Atienza planted the first sugar-cane in St. Domingo, and rude cylinder presses, moved by water-power, are still constructed there. Cuba participated very slightly in this new industry, and it is most singular that the historians of the conquest, at as late a period as 1553, do not speak of any other export of sugar to Spain and Peru, than that of Mexico. Havana, far

from contributing to commerce what we now style colonial staples, exported only hides and skins, until the eighteenth century.

The cultivation of tobacco and the care of bees, the first hives of which were carried from Florida, succeeded the raising of cattle. Wax and tobacco were soon more important articles of commerce than hides, and were in their turn, superseded by sugar and coffee. The cultivation of these articles did not diminish that of the former ones, and in these different phases of agricultural industry, notwithstanding the efforts we have seen to make the coffee culture predominate, the sugar plantations have thus far yielded the greatest returns. The export, through licit and illicit channels, of coffee, tobacco, sugar, and wax, has risen to fourteen millions annually, estimated at the present value of those staples.

The export of sugar from Havana alone during the last sixty-four years, according to the custom-house returns, is as follows:—

From 1760 to 1763, average at most.....	13,000 Boxes.
" 1770 " 1780.....	50,000 "
1786, ... 63,274 Boxes.	1791, ... 85,014 "
1787,.... 61,245 "	1792,.... 72,854 "
1788,.... 69,221 "	1793,... 87,970 "
1789,.... 69,125 "	1794,... 103,629 "
1790,.. .. 77,896 "	1795,... 70,437 "

1796,....	120,374	Boxes.	1804,....	193,955	Boxes.
1797,....	118,066	"	1805,....	174,544	"
1798,....	134,872	"	1806,....	156,510	"
1799,....	165,602	"	1807,....	181,272	"
1800,....	142,097	"	1808,....	125,875	"
1801,....	159,841	"	1809,....	238,842	"
1802,....	204,404	"	1810,....	186,672	"
1803,....	158,073	"			
From 1811 to 1814 average yearly	206,487	"			
1815,....	214,111	"	1820,....	215,593	"
1816,....	200,487	"	1821,....	236,669	"
1817,....	217,076	"	1822,....	261,795	"
1818,....	207,378	"	1823,....	300,211	"
1819,....	192,743	"	1824,....	245,329	"

This table, which is the most complete that has been published up to the present time, is based upon a great number of manuscript official documents, which have been communicated to me; on the *Aurora*, and *Papel Periodico* of Havana; the *Patriota Americano*; the *Guias de forasteros* of Cuba; the *Sucinta Noticia de la situacion presente de la Habana*, 1800, MSS.; *Reclamacion contra la ley de Aranceles*, 1821; and the *Redactor General* of Guatemala, July 1825, p. 25.

¹ According to the official returns, the export of sugar from Cuba, since 1824, has been as follows:

1825	488,776	Boxes.
1826 to 1830.....	2,033,793	"
1881 " 1895	2,436,492	"

In order to arrive at the exact export of sugar from Cuba, we must add to the exports from Havana; 1st. That of the other open ports, particularly Matanzas, St. Jago de Cuba, Trinidad, Baracoa, and Mariel; and 2d. The amount of contraband commerce. During my stay in the island, the export of Trinidad was estimated at 25,000 boxes. In examining the custom-house returns of Matanzas, we must avoid the repetition of amounts, and carefully distinguish between the sugar exported directly to Europe, and that shipped to Havana. In 1819, the real trans-Atlantic export from Matanzas did not exceed one-thirteenth of that from Havana, and in 1823 I found it to be one-tenth. According to these data, we may add to the 235,000 boxes, which is the mean term of export from Havana alone for the last eight years (in 1825), at least 70,000 boxes shipped from other ports; so that (estimating the frauds in the custom-house at one-fourth), the total export of the island is more than 380,000 boxes of sugar yearly.

Well-informed persons estimated the consumption

1836 to 1840.....	8,171,423 Boxes.
1841 " 1845.....	4,024,405 "
1846 " 1850.....	4,840,768 "
1851	1,539,994 "
1852	1,409,012 "

No official returns of the commerce of the island, since 1852, have been published.

of Havana, in 1794, at 18,600 boxes, and 45,600 that of all the island. In view of the fact that the population of the island at that time was about 362,000, of which, at most, only 230,000 were free, and that it is now 715,000, of which 455,000 are free, we must estimate a total consumption in 1825, of 88,000 boxes. But supposing it to be 60,000 boxes, we have a total product of at least 440,000 boxes from the sugar plantations.

That we may more exactly comprehend the agricultural wealth of Cuba, let us compare the production of that island in moderately productive years, with that of the other Antilles.¹

SLAVE POPULATION AND EXPORT OF SUGAR IN 1823.

	Slaves.	Export. ¹
Cuba,	260,000	1,520,000 cwt.
Jamaica,	342,382	1,417,488
Barbadoes, Granada, and St. Vincent, . . .	128,000	794,567
Trinidad,	23,500	189,891
All the English Antilles,	626,800	3,005,366
French Antilles,	178,000	794,760
Dutch, Danish, and Swedish Antilles,	61,300	354,386.

¹ We have here reduced Baron Humboldt's extended remarks to the tabular form, for greater conciseness. The export of sugar from Cuba, in 1851, had increased to six millions hundred weight, while that of all the English West Indies had fallen to about 2,750,000 hundred weight.

The present export from St. Domingo is very insignificant. In 1788 it amounted to 80,360,000 kilogrammes, and in 1799 it was still estimated to reach twenty millions kilogrammes. If it had been maintained as in the time of its greatest prosperity, it would augment the export of sugar of all the Antilles 28 per cent. and that of all America 18 per cent. Brazil, Guiana, and Cuba together, with their 2,526,000 slaves, supply (in 1825) nearly 230,000,000 kilogrammes; that is to say, exclusive of contraband, three times more sugar than St. Domingo, at the time of its greatest prosperity. The great increase of product in Brazil, Demarara, and Cuba, has replaced the loss of Haiti, and made the destruction of the sugar industry of that island less sensible.

The production of Brazil, which contains 1,960,000 slaves, and where the sugar-cane is cultivated from the district of Rio Grande to the parallel of Puerto Alegre ($30^{\circ} 2'$ S. lat.), is much greater than is generally supposed. In 1816 it was, according to very exact data, 200,000 boxes, of 650 kilogrammes each, or 130,000,000 kilogrammes (about 650,000 cwt.). The production of sugar in this country has diminished greatly since 1816, in consequence of domestic disturbances, and in years of great drought has barely reached 140,000 boxes. Those who are conversant with this branch of American commerce,

believe that when tranquillity has been re-established, the mean annual export of sugar will reach 192,000 boxes.¹

Equinoctial America and Louisiana yield annually (in 1825), to the commerce of Europe and America, as appears by a minute comparison of all the partial statistics, 460,000,000 kilogrammes of sugar, as follows:—

Antilles,	1,147,500	slaves, 287, or 62 per cent.
Brazil,	2,060,000	" 125, " 27 " "
Guiana,	206,000	" 40, " 9 " "

Great Britain alone, with a population of 14,400,000, consumes more than one-third part of the 460,000,000 kilogrammes supplied by those countries of the new continent, where the slave-trade has gathered 3,314,000 unfortunate slaves.

The cultivation of the sugar cane is now so widely extended in different parts of the world, that any physical or political causes which might suspend, or destroy industrial labor in one of the great Antilles, would not affect the price of sugar, nor exercise that influence in the general trade of Europe and America they would have exercised when the great cultivation was concentrated in a smaller space. Spanish

¹ The product of sugar in Brazil, in 1851, amounted to 117,000 tons of 2,000 lbs. each.—*Hunt's Merchant's Magazine*.

writers have often compared the island of Cuba, from the wealth of its productions, with the mines of Guanajuato in Mexico. And in truth, Guanajuato, at the beginning of the nineteenth century, supplied one-fourth part of all the silver from Mexico, and one-sixth of that from all America. Cuba exports at this time (1825), through licit channels, one-fourth of the sugar from all the Antilles, and one-eighth of all the sugar that goes from equinoctial America to Europe and the United States.

In Cuba there are four qualities of sugar, according to its purity or degree of purging. Of each loaf, or cone with the base uppermost, the upper part gives white sugar, the middle gives brown, and the lower, or point of the cone gives *cucuricho*; these three grades of Cuba sugar are purged, and but a small portion is manufactured as raw, or *moscabado* sugar. As the purging forms are of different size, the loaf varies in weight; it is usually about twenty-five pounds after being purged. The sugar masters desire that each loaf should give $\frac{5}{9}$ of white, $\frac{3}{9}$ of brown, and $\frac{1}{9}$ of *cucuricho* sugar.

During my residence in the plain of Güines, I endeavored to gather some exact data relative to the numerical elements of sugar-cane planting. A large sugar plantation producing from 2,000 to 2,500 boxes, generally has fifty *caballerias* of land (about

1,600 acres), one-half of which is planted in cane, and the other is appointed for alimentary plants and pastures, which latter are called *potreros*. The value of the land naturally varies according to its quality, and vicinity to the ports of Havana, Matanzas, or Mariel. In a radius of twenty-five leagues around Havana, the value of each *caballeria* may be estimated at two or three thousand dollars.¹

That a plantation may produce 2,000 boxes of sugar, it must have three hundred negroes.² An adult male slave, who is acclimated, is worth 450 or 500 dollars, and an unacclimated, newly imported African, 370 to 400 dollars. A negro costs from 45 to 50 dollars a year in food, clothing, and medicine,

¹ The land measure known as a *caballeria*, is a square, having 18 *cordels*, each *cordel* being 24 *varas*, or 432 *varas* of a side; consequently, a *caballeria* has 186,624 square *varas*, equivalent to 32 1-10 English acres.—H.

² There are very few plantations in Cuba that make 2,500 boxes; only those of Rio Blanco, of the Marquis de Arcos, of Don Rafael O'Farril, and Doña Felicia Jauregui, attain this quantity. Those which produce 2,000 boxes, annually, are considered first class sugar plantations.—H.

There has been a great change in this respect, since Baron Humboldt wrote, and a large number of the plantations in the Western department yield from 4,000 to 5,000 boxes, annually. A first class sugar plantation in Cuba now yields from 7,500 to 10,000 boxes, annually.

consequently, including the interest on capital, and throwing off the holidays, the cost of labor is a little more than twenty-five cents a day. The slaves are supplied with jerked beef from Buenos Ayres and Caraccas, and salt fish, when meat is dear; with vegetables, such as plantains, pumpkins, sweet potatoes, potatoes, and corn. In the year 1804, jerked beef was worth 5 to 6 cents a pound in Güines, and in 1825, its cost is from 7 to 8 cents.

On a sugar plantation such as we are describing, producing 2,000 or 2,500 boxes of sugar, there are required, 1st, three cylinder mills, worked by oxen or water-power; 2d, eighteen kettles, according to the old Spanish method, which, having a very slow fire, burns much wood; and according to the French method, introduced in 1801, by Bailli, from St. Domingo, under the auspices of Don Nicolas Calvo, three clarifiers, three large kettles, and two boiling trains (each having three boilers), in all, twelve pieces. It is generally said that seventy-five pounds of purged sugar yields one keg (seven gallons) of molasses; and that this, with the refuse sugar, covers the expenses of the plantation; but this can be true only where large quantities of rum are made. Two thousand boxes of sugar give 15,000 kegs of molasses, which will make 500 pipes of rum, worth \$25 each.

If we form a table of product and expenditure from these data, we find—

2,000 Boxes Sugar (white and brown), at \$24,....	\$48,000
500 Pipes of Rum, at \$25,	12,500
	<hr/>
	\$60,500

The yearly expenses of the plantation are estimated at..... \$30,000

The capital invested consists of

50 caballerias of land, at \$2,500,.....	\$125,000
300 negroes, at \$450,	135,000
Buildings, mills, &c.,	80,000
Cattle, and general inventory,	130,000
	<hr/>
	\$470,000

From this estimate, we find that if a plantation capable of producing 2,000 boxes is established, the capitalist would receive $6\frac{1}{6}$ per cent. interest, according to the old Spanish method, and the present prices of sugar. This return is not exorbitant for an establishment that is not purely agricultural, and whose expenditures are always the same, even though the return should fall off one-third. We need not be surprised, therefore, that the cultivation of rice should be preferred in Cuba to that of sugar, when the price of the latter is so low as 4 or 5 cents a pound.

The profit of a plantation, established some time since, consists in, 1st, the fact that, twenty years since, the cost of making a plantation was much less than now; for, a *caballeria* of good land cost then only \$1,200 or \$1,600, instead of \$2,000 or \$2,500, as now; and an adult negro \$300, instead of \$450 to \$500; and, 2d, the variable returns—the prices of sugar having been at times very low, and at others very high. The prices of sugar have varied so much, during a period of ten years, that the return on the capital invested has varied from five to fifteen per cent.

[NOTE.—That the reader may compare the state of the sugar industry, at the present time, with the foregoing clear statement of its numerical elements, we insert here the estimates presented in an able and lucid work on the political and economical condition of Cuba, printed during the present year, 1855, for private circulation. It is from the pen of a gentleman distinguished alike for his literary attainments, his ability as a sugar planter and economist, and his disinterested zeal for the welfare of his native land. He says:

“ We select a plantation producing 4,000 boxes, which is neither one of the colossal ones recently made, nor one of those deemed small.

300 negroes of both sexes and various ages	
at \$600,.....	\$180,000
34 <i>caballerias</i> of land, in cane, at \$2,500,..	85,000
6 <i>caballerias</i> of land, at \$2,000,.....	12,000
Steam engine and cane mills,	16,000
Buildings,.....	35,500
Boiling trains, &c.,.....	15,000
	<hr/>
	\$343,500

<i>Less</i> —First value of land, which remains on	
ground rent, \$600 a <i>caballeria</i> ,.....	24,000
	<hr/>
	\$319,500

4,000 boxes of sugar, average, \$16,	\$64,000
Product of molasses sold,.....	6,000
	<hr/>
	\$70,000

The yearly expenses of the plantation are esti-	
mated, inclusive of an annual purchase of	
cattle at.	\$36,110
Repairs and replacing material,	14,600
	<hr/>
	\$50,710

leaving a profit of \$19,290, being a return of $6\frac{1}{2}$ per cent. on the capital invested."

The number of hands on the plantation is the same in both estimates, and there is one-fifth less land in the modern than in the old plantation, while the product of sugar is exactly double. This great difference of yield arises, in part, from the following circumstances, and in part, perhaps, from improve-

ments in the mode of culture, and of expressing the juice from the cane. The able writer I have just quoted estimates that the improved division of labor, the use of steam-power, the introduction of mechanical appliances, as railway from the boiling-house to the purging-house, pumps for several purposes, and water pipes, improved furnaces and clarifiers, cane carriers, bagass-carts, &c., and the greater facilities of transition to market, make an actual saving of seventy-nine hands to the plantation.

This largely increases the number of hands that can be applied to field labor, and consequently increases the breadth of land in cane, while the use of steam-power, and a small increase in the capacity of the boiling trains, suffices for the purpose of manufacture. Such is the magical influence of the improved mechanical appliances of our day, upon the product of man's labor. Great improvements have also been effected in the chemical processes of sugar-making; but their effect is, perhaps, experienced more in the improved quality, than in the greater quantity of sugar produced. The sugar planters of Cuba, as a class, are exceedingly intelligent, and quick to adopt improvements in their system of labor.]

From calculations which I made, when in Cuba, I

have estimated that a *hectar* of cane gives a mean of twelve cubic metres of juice, from which are extracted, by the method at present in use, at most, ten or twelve per cent. of raw sugar. Considering, therefore, the juice as a liquid charged with salts, it contains, according to the fertility of the soil, from twelve to sixteen per cent. of crystallizable sugar. The sugar maple, in good lands in the United States, yields 450 grammes of sugar to eighteen kilogrammes of sap, being two and a half per cent. The same quantity of sugar is yielded by the beet root, comparing this quantity with the entire weight of root. Twenty thousand kilogrammes of beets, grown in good land, yield five hundred kilogrammes of raw sugar.

As the sugar cane loses one-half its weight, when the juice is expressed, it gives—comparing, not the product of juices, but the root of the common beet with the sugar cane—six times more raw sugar, to an equal weight of vegetable matter, than the beet root. The juice of the cane varies in its constituent parts, according to the nature of the soil, the quantity of rain, the distribution of heat in the different seasons, and the earlier or later disposition of the plant to flower. It is not alone in the greater or less quantity of sugar held in solution, as some sugar-makers suppose; the difference consists rather in the

proportions of crystallizable and uncrystallizable sugar, albumen, gum, green fecula, and malic acid.

The quantity of crystallizable sugar may be the same, and yet, according to the operations used, the quantity of sugar extracted from an equal weight of juice, will vary considerably; this arises from the different connection between the other peculiar principles of crystallizable sugar. This sugar, on combining with some of the other principles, forms a syrup which does not possess the quality of crystallization, and remains in the refuse. A too great degree of heat seems to hasten and increase the loss. These considerations explain the reason why the sugar-makers sometimes, at certain seasons of the year, consider themselves bewitched, because, with the same applications, they cannot make the same quantity of sugar. They also explain why the same juice, under modified operations—for instance, the degrees of heat, and the rapidity of boiling—yields more or less sugar.

It has been said, and I again repeat it, that we must not look for great improvements in the manufacture of sugar, from the construction or manner of setting the boilers and furnaces only, but from improvements in the chemical operations, a more intimate knowledge of the effect of lime, of alkaline substances, of animal carbon, and, lastly, in an exact

determination of the maximum heat to which the juice should be exposed in the successive boilers. The ingenious analysis of sugar, starch, gum, and the ligneous principles, made by Messrs. Gay Lussac and Thenard, the labors carried on in Europe with grape and beet-root sugar, and the investigations of Dutrone, Proust, Clarke, Higgins, Daniell, Howard, Braconnot, and Derosne, have facilitated and prepared the attainment of these degrees of perfection; but nothing has been done in the Antilles.

The amalgamation of metals, on a large scale, in Mexico, cannot, certainly, be improved without a previous examination, during a long stay at Guanajuato, or Real del Monte, of the nature of the metals placed in contact with the mercury, the muriate of soda, lime, &c.; in the same manner, to improve the technical manipulations on the sugar plantations, we must begin on several of those in Cuba, with an analysis by a chemist acquainted with the present state of vegetable chemistry, of small portions of juice taken from the several kinds of cane, in different soils, and at various seasons of the year. Without this preliminary labor, undertaken by some person from one of the most celebrated laboratories, and possessing a complete knowledge of the operations of sugar-making from beet-root, we may obtain some partial improvement, but the

manufacture of sugar will always continue to be what it now is, that is to say, the result of experiments more or less satisfactory, but which are made in the dark.

In the lands that can be irrigated, and those where tuberous roots have been grown before planting the cane, a *caballeria* of fertile land, instead of yielding 1,500 arrobes of sugar, will yield 3,000 or 4,000 arrobes, which is equal to 2,660 or 3,540 kilogrammes of white and brown sugar to the hectar. Taking it at 1,500 arrobes, and estimating it at the price in Havana, of \$24 a box, we find that a hectar of land will produce in value, \$15 40 in sugar, and \$5 76 in wheat, supposing an eight-fold yield, and a price of \$3 60 per 100 kilogrammes. I have stated elsewhere, that in comparing these two branches of agriculture, we must bear in mind that sugar-planting requires a very large capital; at present, for example, in order to produce 2,000 boxes in a single establishment, \$400,000 are required.

In the irrigated lands of Bengal, an acre yields, according to Brockford and Roxburgh, 2,300 kilogrammes of raw sugar, which is equal to 5,700 kilogrammes to the hectar. This fertility being common to a large breadth of land in India, we need not be surprised at the low price of sugar there. The yield

of a hectar is double what it is in the Antilles, and the daily wages of an East Indian is one-third that of a negro slave in Cuba.

Supposing, as we should when we speak of the production of all Cuba, that in lands of mean fertility a *caballeria* yields 1,500 arrobes of purged sugar, we find that nineteen and three-fourths square leagues (about one-ninth the area of one of the medium departments of France), suffice to produce the 430,000 boxes of sugar which Cuba yields for domestic use and exportation. It seems surprising that less than twenty square leagues of land can give an annual product, whose value (estimating a box of sugar in Havana at \$24), exceeds \$10,400,000. In order to supply the 56 or 60 millions kilogrammes of raw sugar, consumed by the thirty millions of people in France, there would be required, within the tropics, nine and five-sixths square leagues of land cultivated in sugar-cane; in the temperate zone, thirty-seven and a half leagues of land in beet-root are necessary. A hectar of good land in France, planted in beet-root, produces from ten thousand to twenty thousand kilogrammes. The average yield is twenty thousand kilogrammes, which give $2\frac{1}{2}$ per cent., or 500 kilogrammes of raw sugar. One hundred kilogrammes of raw sugar yield fifty kilogrammes of refined (30 of brown sugar and 20

of loaf); consequently, a hectar, in beet root, yields 250 kilogrammes of refined sugar.

Shortly before my arrival at Havana, some samples of beet root sugar were carried there from Germany, and this article was said "to menace the existence of the sugar-growing isles of America." The sugar-planters saw, not without some alarm, that it was a substance exactly like cane sugar; but they consoled themselves with the hope that the cost of the labor, and the difficulty of separating the crystallizable sugar from so large a mass of vegetable pulp, would make the operation expensive and profitless. Since that time chemistry has triumphed over these obstacles; for, in 1812, there were in France two hundred manufactories of sugar from the beet root, working with variable results, and producing a million kilogrammes of sugar, annually. But the inhabitants of the Antilles, well aware of what transpires in Europe, entertain now no fears of the beet root, grape, or chestnut sugar, nor of the coffee of Naples, or the indigo of the south of France.

The greatest changes which have been produced in the culture of the sugar cane, and the laboratories of the plantations, took place between the years 1796 and 1800. First, mules were substituted for oxen, as motive-power for the sugar mills; then

water-power was introduced in Güines, it having been used even by the first settlers in St. Domingo; and, finally, experiments with steam-power were made at Ceibabo, by Count Jaruco y Mopox. There are now twenty-five of these steam-engines on different estates in Cuba.¹ The cultivation of the Otaheitian cane is also becoming very general. Clarifiers, and better arranged reverberating furnaces, have been introduced. We must also confess, in honor of the wealthy planters, that on a great number of plantations, the greatest care is taken of the sick slaves, of the children, and to increase the number of women.

In 1775 the island contained 473 sugar plantations, and in 1817 there were more than 780. None of the former produced even a fourth part of the sugar that is now produced by a second-class plantation; it is not, therefore, the number of plantations alone that will give us a true idea of the progress of this branch of agricultural industry. The district of Havana contained, in 1763, 70 sugar plantations; in 1796, 305; in 1806, 480; and in 1817, 625.²

¹ The census of 1846 states the number of sugar plantations with steam-power at 286, since when the number has very largely increased.

² The number in 1846 was 735. In 1850, the total number of sugar plantations in Cuba exceeded 1750.

The first plant of cane in virgin soil, carefully planted, will continue to yield for twenty or twenty-three years, but, after that, it is necessary to replant every three years. On the hacienda Matamoros, there was, in 1804, a cane-field, which had been planted forty-five years. The most fertile sugar lands now under cultivation (1825) are those in the vicinity of Mariel and Guanajay. The variety of the sugar cane, known as Otaheitan cane, which is distinguishable at some distance by its deep green, yields, on the same lands, one-fourth more juice, and a larger and more woody fibre, and is consequently richer in combustible matter than any other variety.

The sugar-makers on the plantations, who have all the presumption of a little learning, pretend that the juice of the Otaheitan cane is worked more easily, and that it yields more crystallizable sugar, and less cane-juice potash than that of the other varieties. This south sea cane, after six or seven years' cultivation, certainly has a thinner rind, but the knots remain much further apart than in the creole cane. Fortunately the fears that were at first entertained, that the Otaheitan cane would degenerate into the ordinary sugar cane, have not been realized. In Cuba it is planted during the rainy months of July and October, and the crop is brought in from February to May.

As the forests of Cuba have disappeared, through excessive clearing of the land, the sugar plantations have begun to experience the want of fuel. In former times, a small portion of bagass (the crushed cane), had been used to enliven the boiling fires, under the old kettles, but it is only since the immigrants from St. Domingo introduced the reverberating furnace that the attempt to abandon wood, and burn only bagass has been made. In the old form of furnaces and kettles, a load of wood, of 160 cubic feet, is consumed to make five arrobes of sugar, so that for one hundred kilogrammes of raw sugar, 278 cubic feet of lemon and orange wood are required. With the reverberating furnace of St. Domingo, one load of bagass containing 495 cubic feet, made 640 pounds of raw sugar, which is equal to 158 cubic feet of bagass to 100 kilogrammes of sugar.

During my residence in Güines, and particularly at Rio Blanco, while at the house of the Count Jaruco y Mopox, I made experiments with several new constructions for the purpose of diminishing the amount of fuel, by surrounding the fire with substances that were bad conductors of heat, attaining, at the same time, greater protection to the negroes while feeding the fire. A long stay at the salt works in Europe, and the art of practical salt-making which I had learned in my youth, gave me

the idea of those inventions, which have since been extended with some usefulness. Wooden covers placed on the clarifiers hastened the evaporation, and induced me to believe that a system of covers, and movable ladles suspended with counter-weights, might be usefully extended to the other kettles. This idea is worthy of examination, but we must graduate with care the quantity of syrup, the crystallizable sugar obtained, and that which is lost, the fuel, time, and pecuniary expense of the experiments.

An error has generally prevailed in Europe, which has had no small influence in the study of the effects a cessation of the African slave trade might produce, in supposing that in the so-called *sugar colonies* of the Antilles the greater part of the slaves are employed on the sugar estates. There is no doubt that the cultivation of the sugar cane is one of the most powerful stimulants of the slave-trade, but a very plain calculation proves, that the mass of slaves in the Antilles is three times greater than the number employed on the sugar plantations. Ten years since I stated, that if the 200,000 boxes of sugar, which Cuba exported in 1812, were made on the larger plantations, 30,000 slaves would suffice for that branch of industry.

It is estimated in Cuba that for the production of 1,000 boxes of clayed sugar, 150 negroes, on an

average, are needed; consequently 440,000 boxes would require only 66,000 slaves. If to these were added 36,000, which are required in Cuba, in the cultivation of coffee and tobacco, we find that of the 260,000 slaves now there, barely 100,000 suffice for the three great staples of colonial industry, upon which is based its active commerce. On the other hand, the tobacco is cultivated almost entirely by whites and free blacks. I have said elsewhere, and I base my statement on the very respectable authority of the *Consulado* of Havana, that one-third part (32 per cent.) of the slaves live in the cities and large towns, and, therefore, take no part in the rural labors. If therefore, we take into consideration: 1st, the large number of children not yet able to work, scattered over the plantations; and, 2^d, the necessity of employing a much larger number of negroes on the small and distant plantations, in order to produce an equal amount of sugar to that produced on the great plantations, we shall find that of 187,000 slaves in the rural districts, at least one-fourth part, or 46,000, produce neither sugar, coffee, nor tobacco.

I have stated that before the year 1762, Cuba contributed no more to commerce than is now done by the provinces of Veragua, Panama, and Darien, which, of the Spanish-American provinces, are the

least productive in agricultural products. An event which was apparently a misfortune, the capture of Havana by the English, awakened the public mind. The city was evacuated by them on the 6th July, 1763, and from that time we trace the first efforts of a new-born industry.¹

The construction of new fortifications on a gigantic scale,² placed large sums of money in immediate circulation, and the slave-trade, which was subsequently thrown open,³ increased the number of hands on the sugar plantations. The freedom of commerce with all the ports of Spain, and occasionally with the neutral powers; the wise administra-

¹ The city of Havana surrendered to the British forces, under Count Albemarle and Admiral Sir George Pocock, on the 12th August, 1762, after a siege of two months and six days. The amount of booty divided equally between the army and navy was £736,185 3s. The English forces also occupied Matanzas and Mariel, but the greater portion of the island never recognized their government. It was returned to Spain by the treaty of Paris, and formally given up on the 6th July, 1763, the English having remained in possession ten months and twenty-four days. During this time new life was given to agriculture in Cuba by England's commercial activity, and by the desire of opening a new mart for her African slave-traders. (See Pezuela's *Ensayo Historico de la Isla de Cuba*).

² It is stated that in the construction of the Cabañas fortress alone, fourteen millions of dollars were expended.—H.

³ By royal decree, of 28th February, 1789.—H.

tion of Don Luis de las Casas; the founding of the *Consulado* and the Patriotic Society;¹ the destruction of the French colony of St. Domingo, and the consequent increase in the value of sugar; the improvements in machinery and furnaces, due, in great part, to the refugees from Haiti; the more intimate intercourse between the planters and the merchants of Havana; the great amounts of capital invested in the sugar and coffee plantations; are causes which have successively influenced the prosperity of Cuba. This has continued to advance, notwithstanding the evils of conflicting branches of government, which embarrass the march of progress.²

¹ Since suppressed.

² The complicated state of the administration of justice and of jurisdiction is such, that in the "Memoria acerca de la situacion presente de la Ysla de Cuba," p. 40, twenty-five different civil and ecclesiastical tribunals are enumerated. These subdivisions of the administration of justice well explain what we have already stated regarding the great and increasing number of lawyers.—H.

CHAPTER IX.

AGRICULTURE.

Increase of tithes an evidence of prosperity—Table of agricultural wealth—Hatos and Potreros (*note*)—Pecuniary relations of planters and merchants—Rate of interest—Slave-trade—Coffee planting—Product—Yield per hand compared with sugar—[NOTE.—Decline of coffee planting—Causes.]—Tobacco planting—Former monopoly—Product—Decline—Factoria—Prices—Quantity purchased, and where sold—Expenses of Factoria—State of tobacco planting in 1820-5—[NOTE.—Obstacles to tobacco planting—Future prospects—Present product—Prices—Error of Baron Humboldt—Probable causes of superiority of the tobacco from the *Vuelta de Abajo*.]—Other products in Cuba—Wheat—Wine—Wax.

THE increase of tithes being everywhere one of the most certain evidences of the increase of public wealth, I present here a statement of their product for fifteen years. The tithes and minor ecclesiastical revenues of the diocese of Havana, were farmed for terms of four years, as follows:

1789 to 1792	\$ 792,386
1793 " 1796	1,044,005
1797 " 1800	1,595,340
1801 " 1804	1,864,464

We see here that the tithes in the last term amounted to the mean annual sum of \$466,000, although sugar pays only one-twentieth, or half tithes.¹

¹ In 1792, coffee, indigo, and cotton were declared exempt from tithes, for ten years; and, in 1804, this exemption was made perpetual, and was extended to sugar plantations then in existence. In 1817, the tithes on sugar were reduced to two and a half per cent. These changes in the law, and the great changes that have occurred since the beginning of the present century in the objects of agricultural labor, have naturally produced a fluctuation in the product of this tax, as many lands that paid tithes, while held as cattle farms, &c., when planted in cane, ceased to contribute, and the product of the impost has been, in a great measure, maintained and increased by the advance of the minor branches of agriculture. It is still farmed out, and is payable in money or kind, being compounded. This tax is most onerous upon the small farmers, upon whom the tithe collectors are very exacting, because of their inability to maintain an expensive litigation, while the large proprietors can always compound on more favorable terms. Sagra states the tithes for the bishopric of Havana, from 1805 to 1828, as follows:

1805 to 1808.....	\$1,545,059	1817 to 1820.....	\$1,606,672
1809 " 1812	1,501,212	1821 " 1824.....	1,449,409
1813 " 1816.....	1,600,841	1825 " 1828	1,250,805

The tithes of the archbishopric of Cuba also show a diminution. The same writer states them as follows:

1819 to 1822	\$79,010
1823 " 1826.....	40,487
1827 " 1830.....	39,595

The revenue from this tax has recovered, and even surpassed its former yield, being now about \$500,000, annually.

The agricultural wealth of the department of Havana, in 1817 was :

Sugar plantations,	625	Tobacco plantations,	1,601
Coffee plantations,	779	Churches,	224
Potreros,.....	1,197	Houses,	42,268
¹ Haciendas,	930		

[NOTE.—That of the three departments is stated as follows, in the census of 1846 :

	Sugar Plantations.	Coffee Plantations.	Potreros.	Haciendas.	Tobacco Plantations.	Churches.	Houses.
Western,.....	735	1,012	1,548	193	3,990	229	56,104
Central,.....	404	78	4,305	576	967	65	31,079
Eastern,	303	580	2,838	470	4,145	86	25,779
Total,.....	1,442	1,670	8,691	1,239	9,102	330	112,962

To these, we may add the following number of farms, called *Sitios de labor*: In the Western, 12,286; Central, 6,678 ; Eastern, 6,328.]

The extraordinary expenditures required by the large sugar plantations, and the frequent domestic

¹ The *Hatos* or *Haciendas de Cria*, and the *Potreros*, are cattle farms. The first are often two or three leagues in diameter, without fences, where half-wild cattle are pastured. Two or three horsemen only are necessary on them, who traverse the country looking after the cows, and collecting and marking the calves. The *Potreros* are smaller cattle farms, fenced, and frequently having some land planted in maize, yuca, and plantain. Cattle are there fattened, and sheep, swine, and goats reared.—H.

misfortunes caused by play, luxury, and other evils, place the landed proprietors in a state of absolute dependence upon the merchants. The most frequent loans are those made to the planters, upon condition of repayment from his crop of sugar, or coffee, at prices two rials per arrobe of the first, and two dollars per quintal of the last, less than the current rates in market. Thus a crop of one thousand boxes of sugar is sold in anticipation, at a loss of \$4,000. The demand for money for business transactions, and the scarcity of coin, is so great that the government at times is forced to borrow at ten per cent., and individuals at even twelve and sixteen per cent. interest. The great profits made in the African slave-trade, sometimes amounting on a single voyage in Cuba to 100 or 125 per cent., have contributed to increase the rate of interest; for many parties hire money at 18 or 20 per cent., for the purpose of following this infamous trade. The traffic is not only barbarous in itself, but it is also unreasonable, as it does not attain the object it proposes; for like a stream of water brought from a long distance, more than one-half of it, even in the colonies themselves, is turned aside from the cultivation of the lands for which it was destined.

COFFEE.—The cultivation of coffee, like the improvements in sugar making, dates from the

arrival of the immigrants from St. Domingo, or, more particularly, from the years 1796 and 1798. On a coffee plantation having 35,000 trees, a *hectar* of land yields 890 kilogrammes of coffee. In the district of Havana there were, in 1800, 60 coffee plantations, and 779 in 1817. As the coffee tree does not yield abundantly before the fourth year, the export of coffee from the port of Havana, in 1804, was only 50,000 arrobes; since then it has increased. It was in

1809.....	320,000	1819.....	642,716
1815	918,263	1820.....	686,046
1816.....	370,229	1822.....	501,429
1817.....	709,351	1823.....	895,924
1818.....	779,618	1824.....	661,674

These figures show a great variation, which arises from frauds in the custom-house, as well as from more or less abundant crops; for the results of the years 1815, 1816, and 1823, which might be supposed the least exact, have been lately compared with the custom-house returns. We may estimate the total export from Cuba (in 1825) as follows:

From Havana, average from 1814 to 1824.....	694,000 arrobes.
Matanzas, Trinidad, St. Jago, &c.	220,000 "
Frauds in the custom-house	304,000 "
Total.....	<u>1,218,000</u> "

By this calculation it appears that the export of coffee from Cuba is greater than that from Java, which was estimated by Mr. Crawford, in 1820, at 190,000 piculs, or $11\frac{4}{5}$ kilogrammes; and than that from Jamaica, which, in 1823, did not exceed, according to the custom-house returns, 169,734 cwt., or 8,662.478 kilogrammes.

While the price of sugar in Havana is always quoted by the arrobe, of 25 pounds, that of coffee is quoted by the quintal of 100 pounds. The latter has varied from \$3 to \$30, and in 1808, it fell even below the former price. During the years 1815-19 it sold from \$13 to \$17 the quintal, and now rules at \$12. It is probable that the cultivation of coffee in Cuba does not employ over 28,000 slaves, the annual average product of which is 305,000 quintals, worth, at present prices, \$3,660,000. At the same time, 66,000 negroes produce 440,000 boxes of sugar, which, at the price of \$24 a box, are worth \$10,560,000. By this estimate we see that each slave produces, annually, in value, \$130 in coffee, and \$160 in sugar. It is almost needless to observe, that these sums vary with the alterations in price of the two articles named, the variations of which are sometimes in opposite directions, and that in these calculations, which may give some idea of intertropical agriculture, I embrace the domestic consump-

tion, and the licit and contraband export, under the same point of view.

[**NOTE.**—The product of coffee in Cuba has steadily declined for some years past, under the competition with the greater profits from sugar culture, and the less cost of coffee produced by the cheaper slave labor of Brazil, where, for a series of years before the total cessation of the African slave-trade, in 1851–2, slaves were sold at an average price of \$300 to \$350. It reached its highest point about 1835, as will be seen by the following tables of exports, compiled from the custom-house returns:

1825 to 1830	Qqs.	2,149,581	Average,	429,716
1830 " 1835	"	2,494,479	"	499,000
1835 " 1840	"	2,347,058	"	469,412
1840 " 1845	"	1,666,247	"	333,249
1845 " 1850	"	960,306	"	192,061
1851	"	143,780		
1852	"	193,837		

About seventy per cent. of the export in 1852 was from the Eastern department, where the competition of the sugar culture for the employment of slave labor, has not been experienced to the same extent as in the western part of the island.]

TOBACCO.—The tobacco of Cuba is celebrated in

all parts of Europe where smoking prevails; it was introduced there, in imitation of the natives of Haiti, toward the close of the sixteenth, and beginning of the seventeenth century. At one time it was generally believed, that if the cultivation of tobacco was relieved from all the trammels of an odious monopoly, it would be to Havana the source of a great commerce. The beneficent intentions evinced by the government six years since, in abolishing the monopoly of tobacco culture and sale, have not yet produced to this branch of agriculture the benefits which might have been expected. The cultivators are poor, the rent of land has increased in an extraordinary degree, and the preference entertained for coffee planting (in 1825), impedes the increase of the tobacco culture.

The oldest data we possess, relative to the quantity of tobacco supplied by Cuba to the factories of the metropolis, are of the year 1748. According to Raynal, who is a much more exact writer than is generally believed, the yearly average, from 1748 to 1753, was 75,000 arrobes. From 1789 to 1794 the yearly product of the island amounted to 250,000 arrobes; but from that time to 1803, the high price of lands, the preference given to coffee and sugar planting, the vexations arising from the government monopoly of purchase, and the impediments laid

upon foreign commerce, have progressively diminished the amount of product to less than one-half that quantity. But it is believed that from 1822 to 1825, the amount of tobacco grown in Cuba has risen to 300,000 or 400,000 arrobes.

The domestic consumption of the island is 200,000 arrobes, or more. Up to the year 1791, the "Commercial Company of Havana" delivered the tobacco of Cuba to the royal factories in Spain, under contracts which were renewed from time to time with the government. The establishment of a government "Factoria de tabacos" in Havana, succeeded that company, and retained the monopoly of the trade to itself. The tobacco was classified as superior, medium, and inferior, and was received from the growers at fixed prices; in 1804, these were six, five, and two and-a-half dollars per arrobe (\$24, \$20, and \$10 per quintal), respectively. By comparing the different prices with the quantity of each class of tobacco produced, we find that the "Factoria" paid an average price of \$16 per quintal for the leaf tobacco. With the expense of manufacture, the segars cost the government seventy-five cents per pound;¹ snuff, fine grain and good color, $42\frac{3}{4}$ cents,

¹ The weight of the segars being about ten pounds to the thousand their cost would be \$7 50 per thousand.

and common soft, or Seville, $18\frac{3}{4}$ cents a pound, in Havana.

In good years, when the crop (the product of advances made by the "Factoria" to poor cultivators), amounted to 350,000 arrobes of leaf, 128,000 arrobes were manufactured for Spain, 80,000 for Havana, 9,200 for Peru, 6,000 for Buenos Ayres, 2,240 for Mexico, and 1,100 for Caraccas and Campeachy.¹ In order to make up the amount of 315,000 arrobes (for the crop loses ten per cent. of its weight, in loss and damage in the transportation and manufacture), we must suppose that 80,000 arrobes were consumed in the interior of the island, that is, in the country, where the royal monopoly did not extend.

The maintenance of 120 slaves, and the expenses of manufacture, did not exceed \$12,000 yearly; but the salaries of the officers of the "Factoria" amounted to \$541,000. The value of the 128,000 arrobes of tobacco sent to Spain, in the abundant years, either in segars, leaf, or snuff, at the customary prices there, exceeded the sum of five millions of dollars.

¹ *Situacion actual de la Real Factoria de tabacos de la Habana, en Abril, 1804.*—(Official MSS.). In Seville there were sometimes in store ten or twelve million pounds of tobacco, and the revenue from the tobacco monopoly, in Spain, amounted, in good years, to six millions of dollars.—H.

It is surprising to see in the returns of exports from Havana (documents published by the *Consulado*), that the exports for 1816 were only 3,400 arrobes; for the year 1823, only 13,900 arrobes of leaf tobacco, and 71,000 pounds of segars, the value of which was estimated by the custom-house at \$281,000; and in 1825, only 70,302 pounds of segars, and 167,100 pounds of leaf tobacco and strips; but we must remember that no branch of the contraband trade is more active than that in segars. The tobacco of the *Vuelta de Abajo* is most celebrated, but large quantities are exported which are produced in the eastern part of the island. Although many travellers state that the total export of segars in late years, has reached 200,000 boxes (valued at two millions of dollars), I very much doubt it. If the crops were so abundant as this would indicate, why should Cuba receive segars from the United States for the use of the common people?

[NOTE.—The cultivation of tobacco has been one of the most uncertain branches of industry in Cuba. Trammelled for a long time by odious restrictions and exactions, it was confined almost entirely to the poorer classes of the population, who were enabled to raise a scanty and uncertain crop, through the advances of capital made them by the “Factoria.”

After the suppression of this monopoly, it has had to contend with the more popular and profitable pursuits of coffee and sugar planting, which have successively competed with it for the employment of the skill, capital, and labor of the island. Its increase, however, has been rapid and prosperous, as will be seen by the table of exports below, and with the increasing capital and wealth of Cuba, it is receiving a greater proportion of the labor of the country than has heretofore been bestowed upon it. When a still larger share of the skill and capital now absorbed in the cane-fields, shall be turned to the tobacco *vegas*, we may look for more regular and certain crops, and a corresponding ratio of prosperity. There is also room for great improvement in the classification and method of packing the tobacco.

Export of leaf tobacco and segars from Cuba :

	Tobacco.	Segars.
1825 to 1830.....	Qqs. 128,644	M. 245,097
1830 " 1835	" 124,704	" 471,993
1835 " 1840	" 244,259	" 790,285
1840 " 1845	" 306,090	" 941,467
1845 " 1850	" 364,183	" 896,008
1851.....	" 94,366	" 270,313
1852.....	" 97,374	" 180,610

These figures serve to show the progress of this branch of agriculture, but not its actual state; for

the contraband trade in tobacco and segars in Cuba is very great indeed.

During the last twenty years, the prices of segars at Havana have very nearly doubled, and those for leaf tobacco have largely increased. We think Baron Humboldt was misinformed relative to the importation of segars in Cuba, from the United States, for the use of the common people. Some small parcels of manufactured chewing tobacco are imported for sale, and formerly Kentucky tobacco could always be purchased in bond for the African slave-trade; but in our long residence in Cuba, we have never known segars to be imported there from the United States. The *Vuelta de Abajo* owes its fine and universally esteemed quality of tobacco, probably, as much to the physical formation of the country, as to any peculiar quality of its soil. Along the northern border of the district, where the best tobacco is grown, lies the high *Sierra de los Organos*, gathering, in rains upon its northern slopes, the moisture borne landward by the constantly prevailing trade winds; and this, with the effect of the surrounding heated waters of the Caribbean sea, and the Gulf of Mexico, give to the region south of this ridge a character of climate peculiarly its own.]

After speaking of sugar, coffee, and tobacco, the

three products of greatest importance, I will not treat of the cotton, indigo, nor wheat of Cuba. These three branches of colonial industry yield very little, and the proximity of the United States and Guatemala, makes their increase hardly possible. The State of San Salvador exports, at this time, 12,000 bales, or 1,800,000 pounds of indigo, valued at two millions of dollars.

Wheat grows well, to the surprise of travellers who have visited Mexico, in the district of Cuatro Villas, at a slight elevation above the level of the sea; but its cultivation is, in general, very limited. The flour is good, but its production offers few attractions to the colonial agriculturalist; for the fields of the United States, that Crimea of the New World, yield too abundant crops to permit the native cereals to sustain themselves by a system of prohibitive duties, in an island contiguous to the mouths of the Mississippi and Delaware. The same difficulties attend the cultivation of flax, hemp, and the vine.

Even the people of Cuba are not aware, perhaps, that in the first years of the conquest by the Spaniards, wine was made from the juice of wild grapes, in their island. This vine, peculiar to America, has given rise to the very general error that the true *Vitis Vinifera* is common to both continents. The

wild grapes, which gave a slightly acid wine, in Cuba, were probably gathered from the *Vitis tiliæ-folia*, which Mr. Wildernow has described in our herbariums. In no part of the northern hemisphere, up to this time, has the vine been cultivated for the purpose of making wine, south of the latitude of $28^{\circ} 40'$ which is that of the island of Ferro, one of the Canaries, and $29^{\circ} 2'$, the latitude of Abushcer, in Persia.

Wax is not produced by indigenous bees (Meli-pones of Mon. Latreille), but by bees introduced from Europe by way of Florida. This trade was not of much importance previous to 1772. The entire export of the island, from 1774 to 1779, one year with another, did not exceed 2,700 arrobes; and, in 1803, it was estimated (including the contraband) at 42,700 arrobes, of which 25,000 went to Vera Cruz. The churches in Mexico consume largely of Cuban wax; the price varies from \$16 to \$20 per arrobe. The number of arrobes exported from Havana alone, by the custom-house returns, has been as follows:

1815.....	23,398	1820.....	16,939
1816.....	22,365	1822.....	14,450
1817.....	20,076	1823.....	15,692
1818.....	24,156	1824.....	16,058
1819.....	19,373	1825.....	16,505

[NOTE.—From all the island—

1840 to 1845.....	187,035	1851.....	57,453
1845 " 1850.....	290,000	1852.....	58,591]

Trinidad, and the small port of Baracoa, have also a considerable trade in wax, which is gathered in the uncleared portions of the country. The vicinity of the sugar plantations destroys many bees, for they become drunken with the refuse of the sugar kettles and the molasses, of which they are very fond. In general, the production of wax declines as the lands are brought under cultivation.

CHAPTER X.

COMMERCE.

Causes of its importance—Wealth of Cuba—Relation of Havana to Spanish-America—Present state of commerce—Official valuations (*Note*)—Fallacies of tables of trade—Remarks thereon—*Balanza de Comercio*—Imports and exports, 1816 and 1823—Character of imports—Of exports—Merchant ships and men-of-war at Havana—[NOTE.—Imports and exports, 1852—Character of imports, and proportion from United States—Exports—Proportion to the United States—Vessels entered and cleared—Proportion of commerce of Havana.]—Reflections on the character of importations—Large amount of woven fabrics—Of provisions and liquors—State of society, and want of subsistence—Mines and cereals a necessity—Surprising importation of meats and pulse—Probable future deduced—Error of the deduction (*Note*)—Evil colonial policy of Europe—Not adapted to Cuba—Probable increase of population—Social theory—Law of public welfare and of future of Cuba—[NOTE.—Error of social theory demonstrated by Jamaica—Transition of blacks from slavery to freedom—Its sad results—Tendency of free negroes to abandon the fields—Natural results—Sustains Baron Humboldt's law of public welfare and of future of Cuba.]—Flour trade—Mexican competition—State of public wealth in 1800—Its increase—Cuban defence of free trade—Influence of commerce upon society—Progress not to be measured by *tons*—Lives of nations.

It has been already stated, in the beginning of this work, that the importance of the commerce of

Cuba does not arise solely from the wealth of its products, nor from its demand for the wares and fabrics of Europe; but that this importance is based, in part, upon the admirable situation of the port of Havana, at the entrance of the Mexican Gulf, and immediately where the great routes of the commercial nations of both worlds cross each other. The Abbé Raynal has said, at a time when its agriculture contributed, in sugar and coffee, barely two millions to the commerce of the world, "The island of Cuba alone may be worth a kingdom to Spain."

These memorable words have been, in some degree, prophetic, and since she has lost Mexico, Peru, and so many other States that have attained their independence, they should be seriously pondered by the statesmen who may guide the political interests of Spain. The island of Cuba, to which the court of Madrid has long since conceded great freedom of trade, exports, through licit and illicit channels, its own productions of sugar, coffee, tobacco, wax, and hides, to the amount of fourteen millions of dollars at the present time (1825). This is only one-third less than that of Mexico at the time of her greatest mining prosperity. It may be said, that Havana and Vera Cruz are to the rest of America, what New York is to the United States. The tonnage of the thousand or twelve hundred merchant ships that annually arrive at the port of

Havana, amounts (exclusive of the smaller craft engaged in the coasting trade) to 150,000 or 170,000 tons. We also see, even in a time of peace, from 120 to 150 vessels of war touching annually at that port.

From 1815 to 1819 the value of the products registered at the custom-house of Havana alone (sugar, rum, molasses, coffee, wax, and hides), amounted to \$11,245,000, one year with another. In 1823, the value of her exports, returned at less than two-thirds of their actual prices (and exclusive of \$1,179,000 in coin), has exceeded the sum of \$12,500,000. It is more than probable that the imports of the whole island, licit and contraband, estimated at the actual value of the goods and the slaves, amount, at the present time, to fifteen or sixteen millions of dollars, of which barely three or four millions are re-exported.¹ Havana purchases

¹ The official returns of the value of exports and imports in Cuba, in 1851 and 1852, are as follows :

	Imports.	Exports.	Exports in Bond.
1851.....	\$84,042,749	\$83,054,888	\$1,713,035
1852.....	80,828,711	28,602,912	1,148,975

In these returns the rates of valuation for exports are, for sugar 3½ cents per pound; molasses \$6½ a hhd, (about 5 cents a gallon); rum 16 cents a gallon; coffee 4 cents a pound; segars \$4 a thousand; leaf tobacco 6 and 12½ cents a pound; copper ore \$2 50 per quintal.

in foreign marts much larger quantities of goods than are needed for her own consumption, exchanging her colonial products for the fabrics of Europe, and selling them again at Vera Cruz, Truxillo, Laguaira, and Carthagena.

I have examined in another work, fifteen years since, the basis upon which are founded the tables published "under the fallacious title of *Balanzas de Comercio*;" and I stated then how little confidence can be reposed in these pretended accounts between nations making mutual exchanges, the advantages of which it is believed can only be appreciated, under a false principle of political economy, by the amount of balances paid in coin. The following statistics will exhibit two years from the *Balanzas* and *Estados de Comercio*, arranged by order of the government. I have altered none of the figures, for they present (and this is a great advantage in treating of quantities which are difficult to estimate) the minimum amounts.

The values stated in these tables, are neither the actual values of the articles at the place of production, nor those of the markets of sale; but they are fictitious valuations, *official values*, as they are termed in the custom-house system of Great Britain, that is to say (and I shall never tire of repeating it), one-third less than the current prices. In order to

ascertain, with the tables of the trade of Havana as given by the Spanish custom-houses, the commerce of the whole island, we should require tables of the returns of imports and exports from all the other ports, and add to the sum total the amount of fraudulent trade, which varies with different places, and to know the nature of goods and the changes in their prices from year to year. Such estimates can only be made by the local authorities; and the matter that has been published by these, in the struggle with the Spanish Cortes which they have maintained with so much ability, proves that they do not deem themselves sufficiently prepared for a labor which embraces so many objects at the same time.

The *Junta de Gobierno* and the *Real Consulado* publish annually, under the title of *Balanza de Comercio*, tables of the custom-house returns of exports and imports through the port of Havana alone;¹ in which a distinction is drawn between the imports in Spanish and foreign vessels, the exports for Spain, for Spanish ports in America, and for ports not under the dominion of the Spanish crown. The weight or measure of the merchandise, its official value, and the royal and municipal duties are also expressed;

¹ Although I possess a large number of these, I only publish in this work the figures which are absolutely necessary to guide us to general results.—H.

but the official estimates of the prices of goods, as we have before stated, are much below their market value.¹

IMPORTS.

	1816.	1823.
In Spanish vessels—		
Fabrics and merchandise,	\$1,032,135	
African slaves,	2,659,950	No slaves
Gold and silver,	2,288,358	reported.
	<hr/> 5,980,443	\$ 3,562,227
In foreign vessels,	<hr/> 7,239,543	10,136,538
Total,	<hr/> \$13,219,968	<hr/> \$13,968,735

EXPORTS.

In Spanish vessels—		
For Spain,	\$2,419,424	
Spanish ports in America, . .	2,104,890	
Coast of Africa,	643,852	
	<hr/> 5,267,966	\$3,550,312
Foreign vessels,	<hr/> 3,195,169	8,778,857
Total,	<hr/> \$8,363,138	<hr/> \$12,329,169

¹ For example, each negro is valued at \$150, and each barrel of flour at \$10. After expressing the total amounts of fallacious *balanzas de comercio*, I have indicated the sums of gold and silver which have passed through Cuba. In order to give an approximate idea of the domestic consumption of the island, and its requirements of European manufactures, I have stated the quantity of the same articles imported and re-exported.—H.

The custom-house returns of gold and silver exported in 1816, amount to \$480,840, and in 1823, to \$1,179,034 imported, and \$1,404,584 exported. Among the imports and exports, we find the following articles:

	1816.		1823.	
	Imported.	Re-exported.	Imported.	Re-exported.
Flour (bbis.),.....	71,807	10,965	74,119	—
Wines and liquors from Europe, \$	463,067	111,466	1,119,437	49,286
Salt meats and provisions,....	1,096,791	227,274	—	—
Manufactured clothing,	127,681	4,825	218,926	—
Linen goods,	3,226,859	1,529,610	2,071,083	29,526
Woolen “	103,224	—	—	—
Cotton “	—	—	1,021,807	69,049
Furniture, glass ware, &c.,....	267,812	29,000	464,828	8,046
Paper,.....	61,846	20,496	158,337	22,288
Iron ware,.....	330,368	99,581	288,697	63,149
Hides and skins,.....	135,108	—	—	—
Lumber and wooden ware,....	285,217	—	353,765	28,453
Rice (lbs.),.....	—	—	7,746,025	—
Lard (kegs),	—	—	89,948	—
Jerked beef (lbs.),.....	—	—	10,786,600	—

The products of the island exported were as follows.

	1816.	1823.
Sugar,.....	Boxes, 200,481	300,211
Coffee,	Arrobes, 370,229	895,925
Wax,	“ 22,365	15,962
Molasses,.....	Hhds. —	30,145
Leaf tobacco,.....	Arrobes, —	13,879
Segars,	Pounds, —	71,108

The most exact data I have been able to obtain, relative to the arrivals and departures of vessels at the port of Havana, are the following:

Arrivals, 1799.....	883	1802.....	845
1800.....	784	1803.....	1,020
1801.....	1,015		
Average from 1815 to 1819,			1,192

	Merchant vessels.		Men-of-war.
	Arrived.	Sailed.	Arrived.
1820.....	1,305	1,230	—
1821.....	1,268	1,168	95
1822.....	1,182	1,118	141
1823.....	1,168	1,144	149
1824.....	1,086	1,088	129

[NOTE.—In order that the reader may see, at a glance, the progress and present state of the commerce of Cuba, we insert here the results exhibited in the *Balanza de Comercio* of 1852.

IMPORTS.

In 947 Spanish vessels,	\$20,325,751
2,665 Foreign “	9,454,491
<hr/>	<hr/>
3,612	\$29,780,242

EXPORTS.

In 819 Spanish vessels	\$ 7,018,018
“ 2,455 Foreign “	20,435,919
<hr/>	<hr/>
3,274	27,453,937
Imports in bond	\$1,048,469
Exports “ “	1,148,975

The importations for domestic consumption are classed as follows:—

	Total.	From U. States.
Cotton Goods.....	\$2,661,568	\$144,552
Linen "	2,431,564	75,580
Woolen "	359,060	15,663
Silk "	598,747	64,193
Manufactures of Leather.....	635,374	38,663
Meats	1,909,394	161,950
Fish	668,425	152,171
Wines and Liquors	2,563,303	64,433
Flour	4,084,286	91,714
Rice	1,046,604	811,462
Grain and Pulse	320,212	115,991
Spices and Fruits	397,439	22,469
Other Provisions.....	1,400,005	287,900
Lard and Butter.....	948,144	902,635
Lumber.....	2,042,187	1,864,997
Metals and Iron ware.....	2,476,106	201,469
Soap	581,068	64,624
Other Manufactures.....	3,936,274	958,200
Live Stock.....	40,206	9,157
Material for Railroads and Sugar Mills..	680,276	269,223
Specie.....	989,424	532,468
	<hr/>	<hr/>
	\$29,780,242	\$6,849,514

EXPORTS.

	Total.	To U. States.
Sugar.....	\$20,153,002	\$8,940,050
Molasses	1,603,929	978,687
Rum	229,437	11,580
Carry forward	<hr/>	<hr/>
	\$21,986,368	\$9,930,317

	Total.	To U. States.
Brought forward	\$21,986,368	\$9,930,317
Coffee	739,369	138,901
Segars	764,414	353,945
Leaf Tobacco....	1,001,166	274,316
Copper Ore	945,532	39,080
Other Products..	2,017,088	1,339,850
	<hr/>	<hr/>
	\$27,453,937	\$12,076,409

The United States supplied 23 per cent. of the imports, and received 47 per cent. of the exports. The exportation of the principal staples is thus stated:—

	Total.	To U. States.
Sugar.....Boxes	1,409,012	638,578 or 44 per cent.
MolassesHhds.	262,593	156,590 " 61 "
Rum.....Pipes	11,359	579 " 5 "
CoffeeArrobes	739,369	138,901 " 19 "
SegarsM.	180,610	84,887 " 46 "
Leaf Tobacco.....Qqls.	97,374	27,711 " 27 "
Copper Ore..... "	381,470	15,632 " 4 "

Of the 3,612 vessels entered, 1,886 were American, and of the 3,274 cleared, 1,644 were American. Tonnage entered 622,016 tons.

Of the imports 74 per cent., and of the exports 44 per cent. were through the port of Havana.]

When we compare in these tables the great value of the importations with the small value of the

goods re-exported, we are surprised to find how great is the domestic consumption of a country, containing only 325,000 white, and 130,000 free colored population. Estimating the several articles at their current prices, we find a consumption of two and a half or three millions of dollars in linen goods, one million in cotton goods, four hundred thousand in silks, and two hundred and twenty thousand in woolen goods. The demand of Cuba, through the port of Havana alone, for the woven fabrics of Europe, has exceeded four, or four and a half millions of dollars yearly, for the last few years. To these imports at Havana, through licit channels, we must add for furniture, glass ware, &c., &c. \$500,000; iron and steel, \$380,000; lumber, \$400,000; and castile soap, \$300,000.

The importations of provisions and liquors at Havana, seem to me, worthy the attention of those who wish to ascertain the true social state of those communities called the *sugar colonies*. Such is the composition of society in those communities, inhabiting the most fertile soil that Nature has offered to the use of man; such the direction of agricultural labor and industry in the Antilles, that in the beneficent climate of the tropics the people would fail to obtain subsistence, if it were not for the freedom and activity of their foreign commerce.

I will not refer to the wines imported at Havana, which amounted (according to the custom-house returns, be it remembered) to 40,000 barrels in 1803, and in 1823 to 15,000 pipes, valued at \$1,200,000; nor to the 6,000 barrels of brandies, &c., from Spain and Holland; nor to the 113,000 barrels of flour. These wines, these liquors, and this flour, to the value of \$3,300,000, are consumed only by the better classes of the people. The cereals of the United States have become a real and true necessity, under a zone where for a long time, maize, yuca, and the plantain were preferred to any other kind of food. Amid the always-increasing enlightenment of Havana, we may not lament the development of a luxury that is purely European. But alongside of the flour, wines, and liquors of Europe we find, in 1816, a million, and in 1823, three and a half millions of dollars in *salted meats, rice, and dried pulse*. During the last named year, the importation of rice (in Havana alone, and by the custom-house returns, exclusive of contraband), has been 8,075,000 pounds (in 1852, in all the island, 20,940,925 pounds), that of salted and dried meats, the *tasajo* (jerked beef), so necessary for the support of the slaves, 11,625,000 pounds (in all the island, in 1852, 41,750,450 pounds).

This absence of the means of subsistence characterizes that part of the tropical regions where the unwise

activity of the European has inverted the order of nature. It will diminish as the inhabitants become better aware of their true interests, and disheartened at the low prices of colonial products, and they will then vary the staples of their production, and give an impulse to all the branches of rural economy.¹

The principles of the limited and mean policy which guides the rulers of small islands (workshops, in fact, dependent upon Europe, and inhabited by men who abandon the country as soon as they become sufficiently wealthy), can never harmonize with a country nearly as large in extent as England, filled with populous cities, and whose inhabitants, descending from father to son for centuries, far from deeming themselves strangers upon American soil, hold for it the same affection that every one entertains for his native land.

¹ The study and development of the true principles of Political Economy, during the last quarter of a century, have demonstrated the reverse of this theory of material interests. It is now generally admitted that the labor and capital of a country are most wisely employed in the production of those staples for which its climate and soil are best adapted. In this manner, through the interchanges of a free trade, the wants of the community are supplied with the least expenditure of labor, and a larger portion of its produced wealth is left in the form of capital, to be re-applied to production. It is this combination of agriculture and commerce that has been the source of the great material prosperity of Cuba.

The population of the island of Cuba, which perhaps, may increase within fifty years to a million, may open to itself, through its own wants, an immense field to native industry.

Though the slave-trade should cease, and the slaves pass slowly to the condition of freemen, and society attain the power of self-government, without being exposed to the violent fluctuations of civil commotion, it would continue upon the path marked out by nature for every numerous and intelligent community. The cultivation of sugar and coffee would not, therefore, be abandoned, but like that of cochineal in Mexico, of indigo in Guatemala, and of cocoa in Venezuela, it would cease to be the principal basis of national existence. An intelligent and free agricultural people would succeed a slave population that is without foresight or industry. The capital which the commerce of Havana has poured into the hands of the agriculturists during the last fifteen years, is already beginning to change the face of the country, and to this efficient power, whose action is always increasing, there would necessarily be added another—the development of human knowledge, which is inseparable from the progress of industry and of national wealth. On the union of these two great springs of action depends the future fate of the metropolis of the Antilles.

[NOTE.—The error of the social theory here stated has been demonstrated by the sad experience of Jamaica. The change in the condition of the blacks in that island was made in accordance with the requisites here laid down, as far as it was possible to accord with them. The transition of the slaves to the condition of freemen was gradual, and the amalgamated community attained the right of self-government without the violent fluctuations of civil commotion; yet it has been found that an intelligent and free agricultural people did not succeed the slave population; that the numbers and influence of the intelligent white population have steadily and rapidly decreased, and threaten to become wholly extinct; that the freed negroes are relapsing from the semi-intelligent state they had attained under the rule of the whites, and are retrograding toward barbarism; that the supply of agricultural labor, and consequently, the product of agriculture, has largely diminished; that commerce has dwindled away; and that the social condition of the blacks has sunk to an unhappy prevalence of sloth, misery, and want.

Co-existent with this decline in the material welfare of the inhabitants of Jamaica, a decline in their moral condition has been experienced. Religion has waned; churches have been closed; schools

have fallen into decay ; the ministers of the gospel have fled the country ; the rite of marriage is falling into disuse ; the social position of woman has been degraded ; and vice and crime have become, in a measure, natural to the state of society among the mass of negroes. The statistics of population in Cuba, which we have already examined, demonstrate the same tendency of the free blacks there to abandon the labors of agriculture, and to congregate in the towns. The cultivation of the fields being thus diminished, commerce, which is the handmaiden of agriculture, must decline also, and with this diminution ceases the accession of capital, which commerce brings to the agriculturist.

In these sad facts, we recognize the truth of the social law laid down by Baron Humboldt : that "the development of human knowledge is inseparable from the progress of industry and of national wealth ;" and we must also admit his deduction, that the future fate of Cuba depends upon the maintenance of her industry, and the increase of her national wealth, which shall continue to extend the magic influence of capital over her fields, and stimulate the development of knowledge among the people.]

The custom-house returns of flour imported at

Havana alone, in 1823, was 113,506 barrels, which, at the average price of \$16 50, inclusive of the duties, amounts to \$1,864,500. The first direct importation of flour from the United States is due to the wise administration of Don Luis de las Casas. Before his time, it could only be imported after having been carried to a port in Europe. Mr. Robinson (*Mem. on the Mexican Revolution*, vol. 2, p. 330) estimates the importation of flour into Cuba, through licit and illicit channels, at 120,000 barrels. He adds, which seems to me less certain, "that the island of Cuba, in consequence of the evil distribution of slave labor there, could barely sustain a blockade of five months." In 1822, there were imported from the United States 144,980 barrels, valued in Havana, inclusive of the duties, at \$2,391,000.

[In 1852, the total importation of flour into Cuba was 327,950 barrels, of which but 7,610 were from the United States; total value, at the mean selling price of \$16 50, \$5,411,175.]

Notwithstanding that the flour of the United States is burdened with an impost of seven dollars a barrel, yet that of Spain—Santander, for instance

—cannot compete with it.¹ A competition was begun by Mexico, under the most favorable circumstances; for, during my residence at Vera Cruz, Mexican flour was already exported from there to the value of three hundred thousand dollars; and this had increased, in 1809, to 70,000 barrels, as is shown by the statement of Mr. Pitkins. The political disturbances of Mexico have entirely destroyed this trade in cereals, between two countries both situate under the torrid zone, but at different elevations above the level of the sea, which exerts a powerful influence upon climate and production.

As a complement to these statements regarding the foreign trade of Cuba, let us listen to the author of an essay we have repeatedly cited, who sets forth the true situation of the island. “Havana begins already to experience the effects of an accumulation of wealth, for provisions have doubled in price, within a few years, and the wages of labor are so increased, that a newly imported African, without having learned any trade, earns by the labor of his hands from 50 to $62\frac{1}{2}$ cents a day; and a negro mechanic, however rough his work, earns from $62\frac{1}{2}$ to

¹ The duty on flour imported from the United States is now nearly eleven dollars a barrel, and is an efficient protection to that of Santander.

75 cents a day. The patrician families remain in the country, and those who become rich do not return to Europe. There are families which are very wealthy: Don Mateo Pedroso, who died a short time since, left in land alone more than two millions of dollars. The trade which is transacted yearly in that market amounts to more than twenty millions."—*De la situacion presente de Cuba.—MSS.*

Such was the state of public wealth at the close of the year 1800. Since then, twenty-five years of constantly increasing prosperity have elapsed, and the population has nearly doubled. Previous to 1800, the returns of the export of sugar did not reach 170,000 boxes; now (1825) it always exceeds 200,000 boxes, and has attained 250,000, and even 300,000. [In 1852, it exceeded 1,400,000 boxes.] A new branch of industry has been created in the coffee culture, the export of which shows a value of three and a half millions of dollars. Industry, directed by better knowledge, has attained better results, and the system of imposts that bore heavily upon it, and weighed down foreign trade, was changed in the year 1791, and has been subsequently improved by successive alterations.

Whenever the mother country, ignoring her true interests, has wished to take a retrograde step, a thousand claimors, each louder than the other, have

come up, not only from the people of Havana, but frequently also from Spanish executive officers, in defence of the freedom of trade in America. Through the enlightened zeal and patriotic views of the intendant, Don Claudio Martinez Pinillos, another step has been recently taken, favoring the employment of capital, in conceding to Havana a warehousing system or trade in bond, under the most favorable auspices.

In Havana, as everywhere, where commerce and its consequent wealth experience a rapid increase, the evil influence it exercises over ancient customs is complained of. This is not the place to compare the former state of Cuba, covered with pasture before its capture by the English, and its present state, when it has become the metropolis of the Antilles ; neither will we weigh the frankness and simplicity of the customs of a nascent society, with those which appertain to a more advanced civilization. A love of wealth springs from the spirit of commerce, and as a necessary consequence, the mass contemns whatever cannot be obtained with money ; but it is the good fortune of human affairs, that whatever is most worthy of being desired, most noble and most free in man, we owe only to the inspirations of the soul, and to the improvement of our intellectual faculties.

If the pursuit of wealth should pervade to an absolute degree all classes of society, it would infallibly produce the evil that is deplored by those who contemplate with sorrow what they style the preponderance of the industrial system. But the increase of commerce—multiplying the friendly ties between nations, opening an immense sphere to the operations of the mind, pouring capital into the lap of agriculture, and creating new wants through the refinements of luxury—presents in itself the remedy for the danger which they believe to exist. In this extreme complication of cause and effect, time is needed to establish the equilibrium between the different classes of society. We cannot say, at any given period, that civilization, the progress of knowledge, and the development of the public mind, may be measured by *tons*, by the value of exports, or by the state of the industrial arts. Nations, like individuals, should not be judged by a single period of their lives, for they must run the entire course of their destiny, passing through the whole scale of a civilization adequate to their physical condition, and consonant with their national character.

CHAPTER XI.

INTERNAL COMMUNICATIONS.

Projected canal from Havana to Batabanó—Survey and levels—Difficulty of making roads—Estimated cost and advantages of the Canal—[NOTE.—Present state of roads—Itinerary of principal roads—Cross-roads—Turnpikes—Introduction of railroads—Their adaptability to Cuba—Government determines to build the first—Its immense cost—Receipts and expenses—Sale and extension—Present system of railroads—Existing railroads in Cuba—Their cost—Receipts—Steam navigation—Coasting trade—Shipbuilding—Telegraph.]

THE laborious and costly means of internal communication in Cuba, increase the cost of her products in her ports, notwithstanding the short distance between the northern and southern shore. A projected canal, which shall combine the advantages of uniting Havana with Batabanó, and diminish, at the same time, the expense of transportation to the native products, is worthy of special mention here. The idea of the Güines canal was conceived more than half a century since, for the single purpose of supplying the Navy-yard of Havana with

ship timber at a moderate price. In 1796 Count Jaruco y Mopox, an estimable and enterprising gentleman, who possessed great influence at court through his intimacy with the Prince of the Peace, undertook the revival of this project, and in 1798 the survey was made by two engineers of great merit,¹ Don Francisco and Don Felix Lemaur, who found that the length of the canal would be nineteen leagues, of five thousand varas each ; that the highest point was at the Taverna del Rey, and that nineteen locks on the northern slope, and twenty-one on the southern, would be required. In a direct line there are only eight and one-third maritime leagues, from Havana to Batabanó. The canal of Güines, even as a canal for the smaller navigation, would be of great utility in the transportation of agricultural products by steam vessels, for it would pass through the most highly cultivated lands.

In no part of the world do the roads become more impassable during the rainy season, than in that part of the island, where the soil is a decomposing limestone ill adapted to the making of wheel-roads. The transportation of sugar from Güines to Havana,

¹ This survey gave the following elevations in Burgos feet ; Cerro, near the bridge of the Zanja, 106.2 ; Taverna del Rey, 329.3 ; town of Rinçon, 295.3 ; lagoon of Zaldivar, when filled up, 237.3 ; Quivican, 166.1 ; Village of Batabanó, 21.3.—H.

a distance of twelve leagues, costs now one dollar a quintal. Besides the advantages that would accrue to the internal communications, the canal would give great importance to the roadstead of Batabanó, which could be available to small vessels laden with jerked beef from Venezuela, which would thus avoid doubling Cape San Antonio. In the stormy season, and in time of war, when privateers are cruising between Cape Catoche, the Tortugas, and Mariel, it would be advantageous to shorten the voyage from the Spanish main to Cuba, by arriving, not at Havana, but at some port on the south side of island.

In 1796 the probable cost of the Güines canal was estimated at a million, or one million two hundred thousand dollars; we may suppose it would now cost a million and a half of dollars. The products that might pass annually through the canal have been estimated at 75,000 boxes of sugar, 25,000 arrobes of coffee, and 8,000 hds. of molasses and rum. In the first project, that of 1796, it was intended to connect the canal with the Güines brook, running it from the Holanda sugar estate towards Quivican, three leagues south of Bejucal and Santa Rosa. This idea has now been abandoned, as the Güines brook loses its water toward the east, in the irrigation of the savannas of Guana-

mon. Instead of leading the canal east of the Cerro village, and south of the castle of Atares to the bay itself, the intention was to avail of the bed of the Chorrera or Almendares river, from Calabazal to Husillo, and thence to follow the royal zanja; thus bringing the vessels into the suburbs and city of Havana, and at the same time, supplying the fountains with water, of which they are now deprived during three months of the year. I have had the pleasure of visiting, in company with Messieurs Lemaur, the country through which this line of navigation should pass. The utility of the project is undeniable, if, in a time of great drought, a sufficient supply of water can be brought to the dividing point.

[NOTE.—The projected canal was never constructed, but the facilities for internal communication in Cuba have largely increased since the time of Baron Humboldt's writing, and a short sketch of their present condition will not be inappropriate in a view of the actual condition of the island. The old system of highways, which is still in use, is a series of roads upon which very little labor has been expended, and during the rainy season travelling on them is exceedingly laborious. The principal road running east from Havana, is the great

highway through the island, and the mail is still carried over it on horseback. Its principal points are, to Matanzas, 21 leagues; thence to Villa Clara, 57 l.; to Santi Espiritu, 23 l.; to Puerto Principe, 50 l.; to Las Tunas, 31 l.; to Bayamo, 14 l.; to St. Jago de Cuba, 34 l.; to Santa Catalina, 25 l.; to Baracoa, 44 l.; total, 299 leagues. Two roads run west from Havana (the Central and the South Shore roads), to Pinar del Rio, 45 l.; and thence to Guane, 15 l.; and to Mantua, 6 leagues. Total, 66 leagues. Another road runs west from Havana, along the northern shore, to Mariel, 14 leagues; thence to Cabañas, 5 l.; to Bahia Honda, 6 l.; and thence to Mantua. The southern road runs from Havana to Güines, 12 leagues; thence to Cienfuegos, 57 l.; and to Trinidad, 21 l.; total, 90 leagues.

There are also, a common road along the northern side, highways across the island in several places, as from Matanzas to Cienfuegos; from Sagua to Cienfuegos, through Villa Clara; Remedios to Trinidad, through Villa Clara; Moron to Santi Espiritu and Saza; Nuevitas, through Puerto Principe, to Santa Cruz; Gibara to Holguin, Bayamo, and Manzanillo: and others between the larger towns. Besides these principal roads, there are numerous cross country roads, and innumerable paths, used by the country people. Of all these roads, we may

observe generally, that in the Western department they are fair, in the Central poor, and in the Eastern impracticable for wheel-carriages. The common roads are little more than open portions of country, left for public transit, and being without grading or repair of any kind upon them, partake of the qualities of the land where they may be located. In places hilly, stony, and dangerous, in others, they have a deep alluvial soil, intransitable except in the dry season. Travelling is, therefore, a matter of no little trouble and delay, and the consequent small number of travellers enables Cuba to dispense with those, in other countries, necessary institutions, hotels and taverns; and their absence has given rise to that generous country hospitality so often noted by tourists in Cuba.

Many years since, a turnpike system was devised, to extend over the most populous portions of the island, but the great labor and expense of constructing roads sufficiently stable to resist the heavy rains of the tropics, made the progress of these very slow. A few short ones have been constructed in the vicinity of Havana, and are still being extended. The principal turnpike runs west from Havana 12 leagues to Guanajay. The southern turnpike extends to Santiago de las Vegas 5 leagues; the southeastern is finished for a distance of $7\frac{1}{2}$ leagues, and the

eastern, 5 leagues from Havana. They are constructed by the *Junta de Fomento*, with funds appropriated mostly by the government from the general revenue.

To Don Eduardo Fesser, a private gentleman of Havana, belongs the honor of having first drawn public attention in Cuba to the railroads for internal communication. With unwearyed exertion he procured and presented, in a well-digested form, the fullest and most satisfactory information on the subject, and succeeded in establishing a joint stock company for the purpose of carrying his plans into execution. Experience has fully demonstrated the great adaptability of this system of internal communication to the wants of Cuba. The difficulty and great expense of building and keeping in repair good common roads, under the intertropical torrent rains, and the facilities afforded by the face of the country for building railroads without deep cuts, tunnels, or heavy grades, makes their cost comparatively small, while the practicability of constructing short stretches inland, from the harbors, and their becoming immediately profitable, has been favorable to their extension. The wealth and production of the Western department are now in a great measure concentrated upon Havana by a well-devised system of railroads.

At the eleventh hour, the Spanish authorities determined to reserve to themselves the honor of building the first railroad, and M. Fesser and his company were set aside. A loan of two and-a-half millions of dollars was obtained in England, the *Junta de Fomento* contributed \$40,000 annually from its funds, the government loaned *emancipados* and convicts as laborers, and the road from Havana to Güines was built. It was commenced in 1835, and opened to Bejucal, 17 miles, in November 1837, and finally to Güines, $44\frac{3}{4}$ miles, in December 1839.

The building of this road is an instructive example of the manner in which public works are carried on by the Spanish authorities in Cuba. Don Pio Pita Pizarro, who was finance minister in Spain in 1839, states in his work on the treasury and national debt of that country, published in Madrid in 1840, that the total cost of the Güines road was \$3,909,625 75, being \$87,366 per mile, for a single track, and including the cost of equipment, stations, &c., about \$95,000 a mile. The government retained the road for three years, during which its receipts were as follows:—

	Passengers,	Freight.	Total.
1839.....	\$171,791	\$136,484	\$308,275
1840.....	172,611	173,509	346,120
1841.... .	168,167	181,963	350,140

The expenditures have not been published, but Señor Pizarro, in the work above referred to, states that it required an annual outlay of \$441,561 to meet the expenses of the road. The government accordingly determined to sell it, and in 1842 transferred it to a private company that assumed the loan, and engaged to extend the lines. This they have since done to Union, $33\frac{1}{2}$ miles further, where it meets the Matanzas road, and have also constructed branches to Guanajay, 21 miles, and Batabanó, 10 miles.

This road, which is the great trunk of the railway system in Cuba, runs from Havana in a south direction to San Felipe, 26 miles, where it bends to the east through Güines to Union. At Rincon, 14 miles from Havana, the Guanajay branch commences running westward to San Antonio, where it turns toward the north, and at Guanajay it is only six miles from Mariel, on the northern shore of the island. The Matanzas road has a general south course to Union, where it turns to the east, extending through Navajas to Isabel, 25 miles further. The Cardenas road runs south to Bemba, 18 miles, where it bends to the southwest, extending to Navajas, 11 miles—connecting there with the Matanzas road. It has a branch from Bemba, running southeast to Agüica, $33\frac{1}{2}$ miles, which it is contemplated

to extend eastward, through the centre of the island, to Villa Clara. The Cienfuegos road runs northward to Cruces, 18 miles, and is being extended to Villa Clara, 18 miles further, where it will connect with the Cardenas road, and through it with the Havana system. The Coliseo road runs eastward from Matanzas to within a few leagues of Cardenas. The Jucaro road runs southeast from Cardenas into what is now the richest sugar district of Cuba. Several other roads are in contemplation, in order to extend the connections of this system both east and west.

The following are the existing roads in Cuba, with their length in English miles:

Havana, with two branches,	108½
Regla to Guanabacoa,.....	2½
Matanzas,.....	47
Coliseo,.....	24
Cardenas, with one branch,	62½
Jucaro, with one branch,.....	34
Cienfuegos,	18
Remedios,	6
Trinidad to Casilda,.....	3
Puerto Principe to Nuevitas,.....	46
Cobre to St. Jago,.....	9
Total,	360½

We have stated the cost of the road built by the

government, but that is no criterion for the cost of railroads in Cuba—those built by private enterprise having been equally well constructed, at a much less expense. The road from Cardenas to Navajas cost something less than \$28,000 per mile, and the Jucaro road about \$20,000 per mile, exclusive of running equipment.¹

The receipts of the principal of these roads, according to the latest data in our possession, is as follows :

Road.	Length.	1850.		1851.	
		Passengers.	Freight.	Passengers.	Freight.
Havana, ..	108 $\frac{1}{2}$	\$293,300	\$377,209	\$336,076	\$454,961
Matanzas, .	47	75,876	228,266	87,239	288,782
Coliseo, ...	24	16,691	105,659	13,333	128,526
Cardenas, .	62 $\frac{1}{2}$	32,070	158,374	61,695	258,378
Jucaro, ...	34	14,088	291,641	9,103	261,544
Remedios,..	6 (opened April, 1851),.....	16,905	22,877		

Several lines of steamers are established, con-

¹ For much of this information regarding the railroads of Cuba, we are indebted to a lucid manuscript report drawn up several years since, by C. D. Tolme, Esq., formerly British consul, and still a resident at Havana, whose varied and accurate information relative to Cuba is probably unsurpassed by that of any foreigner there. We have also to acknowledge our obligations to the modest but valuable work of Don José G. de Arboleya, entitled "Manual de la Ysla de Cuba."

necting all the principal ports with Havana, and an active trade is carried on by them. The lines on the south coast connect with the Havana railroad, at Batabanó. In summer from six to eight, and in winter from ten to twelve steamers, are kept constantly running.

Neither the "Balanzas de Comercio" nor the "Cuadro Estadistico" give us any information in relation to the coastwise trade by sea, although it is very large, the entries at the Havana custom-house in 1851, of vessels employed in this trade having amounted to 3,493. The returns of the marine department show that 433 vessels of twenty tons burden and upwards, and 1,289 under twenty tons, are matriculated, three-fourths of which are supposed to be engaged in the domestic coasting trade. This is by no means improbable, as the number of vessels employed in this trade is very great, the general movement of freight upon the railroads being to the nearest seaport, whence it is conveyed by sea to Havana. The larger class are generally schooners, constructed on the finest models, and many of them are built in Cuba from the admirable timber furnished by her forests—mahogany being often used in the frame, and cedar in planking them. Within a short time steam propellers have

been advantageously introduced in this trade, for which they seem eminently adapted. The electric telegraph has lately been introduced, but being entirely in the hands of the government it is of little service to the public.

CHAPTER XII.

REVENUE.

Historical sketch—Its comparatively large amount—Causes of great expenditure—Struggle with the Spanish republics—Mistaken policy of Spain—Customs revenue of Havana, 1789 to 1822—Detail of revenue, 1824—Increase—Internal taxes, 1735 to 1818—Revenue and expenditure, 1822—Comments of the Intendent—Subsidies from Mexico to Cuba—[NOTE.—Sources of present revenue examined—Maritime revenue and tariff—Internal taxes—Direct revenue—State property—Declared revenue—Items of government income to be added—Total revenue—Abuses in Cuba—Evil effects of the revenue system—Appropriations—Civil list—Army—Navy—Crown income—Average product to Spain—Percentage on official incomes—Revenue from 1826 to 1852—Compared with revenue of Spanish government in Mexico—Reflections.]

THE increase of agricultural prosperity in the island of Cuba, and the accumulation of wealth flowing from the value of its importations, has augmented the public revenue during late years to four and a half, and perhaps even five millions of dollars. The custom-house of Havana, which before the year 1794 yielded less than \$600,000, and from

1797 to 1800 an average of \$1,900,000, brings to the public treasury, since the declaration of the freedom of commerce, a net sum of more than \$3,100,000. As the colonial government gives the greatest publicity to everything concerning the collection of revenue in Cuba, we learn by the reports of the treasury department for the city and district of Havana, that from 1820 to 1825, the public revenue in the subordinate departments of this treasury, has oscillated between \$3,200,000 and \$3,400,000. If to this sum we add \$800,000, which the treasury has received from other branches of revenue, as lottery, tithes, &c., and also the income from the custom-houses of Trinidad, Matanzas, Baracoa, and St. Jago de Cuba, which amounted to more than \$600,000 previous to the year 1819, we are convinced that the estimated revenue of five millions of dollars for the whole island is not exaggerated. A few simple comparisons will prove how large is this product relatively to the actual state of the colony.

The island of Cuba has not over one forty-second part of the population of France, and as about one-half of its inhabitants live in a state of extreme poverty, they consume but little. Its revenues equal those of Colombia, and exceed the product of all the custom-houses of the United States prior to

the year 1795, when that Confederation had 4,500,000 inhabitants;¹ yet Cuba contains only 715,000. The customs tariff is the principal source of revenue in this beautiful colony; it produces more than three-fifths of the total income, and suffices to cover with ease, all the necessities of internal administration, and military defence.

Though the disbursements of the treasury of Havana have, during the last few years, exceeded \$4,000,000, this excessive expenditure has been caused by the tenacious struggle which the metropolis has endeavored to sustain with the emancipated colonies. Two millions of dollars have been disbursed in the pay of troops and sailors, that have retreated from the American continent to Spain by way of Havana. All the while that Spain, ignoring her true interests, shall delay the recognition of the independence of the new republics, the island of Cuba, menaced by Colombia and the Mexican Confederation, must maintain a military equipment in self-defence, that will absorb the colonial revenues. The navy alone stationed at Havana costs more than \$600,000, and the land forces require annually nearly

¹ The custom-houses of the United States, which, from 1801 to 1808 yielded sixteen millions annually, in 1816 gave only \$7,282,000.
—*Morse's Modern Geography*, p. 638.—H.

a million and a half of dollars. Such a state of things cannot long endure, if Spain does not alleviate the burdens that weigh upon the colony.

From 1789 to 1797 the product of the custom-house at Havana never attained, one year with another, more than \$700,000. The revenues contributed to the royal treasury were,

1789	\$479,302	1793	\$635,098
1790.....	642,720	1794.....	642,320
1791.....	520,202	1795.....	643,583
1792.....	849,904	1796.....	784,689

From 1797 to 1800 the crown and municipal duties collected at Havana amounted to \$7,634,126, being an average of \$1,908,000:

1797	\$1,257,017	1801	\$2,170,970
1798.....	1,822,348	1802.....	2,400,932
1799.....	2,305,080	1803.....	1,637,465
1800.....	2,249,680		

The custom-house at Havana yielded in :

1808	\$1,178,974	1811	\$1,469,137
1809.....	1,913,605	1814.....	1,855,117
1810.....	1,292,619		

The decrease of revenue in 1808 was attributed to the American embargo, but in 1809 the court permitted the free entrance of foreign neutral vessels.

From 1815 to 1819 the crown duties collected at Havana amounted to \$11,575,460; the municipal duties to \$6,709,347, being a total of \$18,284,807, and a yearly average of \$3,657,000, of which the municipal duties composed fifty-six per cent. During the three succeeding years the income of the general treasury at Havana amounted to:

1820	\$3,631,279	1822	\$3,378,228
1821.....	3,277,639		

In 1823, the crown and municipal duties on imports have yielded \$2,734,563. The returns of the "Administracion General" of Havana for 1824, have been as follows:

I.—Import duties,	\$1,818,896
II.—Export duties,	326,816
III.—Coastwise duties, and other branches (salt, deposit, &c.),.....	188,415
IV.—Internal imposts—	
Tax on slaves,	\$ 73,109
Tax on sales of land,	215,092
Sub-administrations,	154,840
Shops,	19,714
Other branches,	10,931

	473,686
V.—Auxiliary branches,.....	136,923
VI.—Consulado, wharfage, &c.,	80,564
Total in 1824,.....	\$3,025,300

In the year 1825, the revenue of the city and district of Havana has amounted to \$3,350,300.

These partial data demonstrate that from 1789 to 1824, the public revenue has increased seven fold. This fact is made more evident if we examine the returns of the ten subordinate treasuries of the interior—Matanzas, Villa Clara, Remedios, Trinidad, Santi Espiritu, Puerto Principe, Holguin, Bayamo, St. Jago de Cuba, and Baracoa. Señor Barrutia has published an interesting statement of these returns, embracing a period of eighty-three years, from 1735 to 1818. The revenue of these treasuries has progressively increased from \$900 to \$600,000.

1735.....	\$896	1738.....	\$1,794
1736.....	860	1739.....	4,747
1737.....	902		
Mean, for the five years,.....			1,840
1775.....	\$123,246	1778.....	\$158,624
1776.....	114,366	1779.....	146,007
1777.....	128,303	Mean,	133,315
1814.....	\$317,699	1817.....	\$524,442
1815.....	398,696	1818.....	618,036
1816.....	511,510	Mean,	474,072

The total amount for the eighty-three years is \$13,098,000, of which St. Jago de Cuba contributed \$4,390,000, Puerto Principe \$2,224,000, and Matanzas \$1,450,788.

By the returns of the general treasury, the public revenue of the district of Havana alone, in 1822, amounted to \$4,311,862; of which \$3,127,918 was from customs, \$601,898 from items of direct income, as lottery, tithes, &c., and \$581,978 drafts upon the fund of the *Consulado* and deposits.

The expenditures during the same year were, for Cuba, \$2,732,738, and for appropriations to maintain the struggle with the continental colonies, \$1,362,062. In the first class we find \$1,355,798 for the land forces charged with the defence of Havana, and contiguous towns, and \$648,908 for the navy stationed at Havana. In the second class of expenditures, foreign to the local administration, we find \$1,115,672 paid to 4,234 officers and soldiers, who, after having evacuated Mexico, Colombia, and other points of the continent formerly under Spanish dominion, have passed through Havana on their return to Spain; and \$164,000 expended in the defence of the castle of San Juan de Ulua.

Don Claudio Martinez de Pinillos, intendant of the island of Cuba, in his notes accompanying the report of the general treasury for 1822, makes the following observations: "If to the extraordinary expenditure of \$1,362,022 for matters relating to the general interests of the Spanish monarchy, we add, on one hand, the greater part of the \$648,908 appro-

priated to the royal navy, the service of which is not limited to the defence of Havana, and, on the other hand, the expenses arising from the visits of the mail ships, and other vessels of war, we shall find that \$2,010,930 (which is nearly one-half the public revenue) has been expended for purposes which have no direct connection with the internal administration of the island." How much will be gained by the welfare and enlightenment of that country, if the day should arrive, when, enjoying internal tranquillity, more than a million and a half of dollars may be yearly employed in works of public utility.

In documents which I obtained from the archives of the vice-royalty of Mexico, I have found that the pecuniary assistance sent from the treasury of that country annually to Havana, amounted, at the beginning of the present century, to the following sums :

For the squadron, navy-yards, and wants of the royal navy, by cedula of 16 Jan., 1790,	\$700,000
For the maritime establishments on the Mosquito coast,	40,000
For the army of Havana,	290,000
For the same at St. Jago de Cuba,.....	146,000
For fortifications,.....	150,000
For the purchase of tobacco and segars for the royal factory at Sevilla,	500,000
	<hr/>
	\$1,826,000

To this sum, which is now borne by the treasury at Havana, we may add \$577,000 which Mexico paid to the treasury of Louisiana, \$151,000 to that of Florida, and \$377,000 to the island of Puerto Rico.

[NOTE.—Before proceeding to examine the present state of the revenue in Cuba, a succinct view of the sources from which it is derived, may not be inappropriate here. For greater clearness, we shall class them under four heads :—I. Maritime revenue, being that collected by customs, imposts upon exports, imports, and shipping; II. Internal taxes, comprising fixed and stated imposts; III. Direct revenue, being that collected not by imposts, under variable conditions; IV. State property, being income from property belonging to the crown.

I. MARITIME REVENUE.—The tariff on imports is arranged with a fixed per centage upon a stated valuation of nearly all the articles of commerce. Inspectors examine and class the importations, for the collection of the proper duties, and where the tariff does not state the valuation, they appraise the article. The principle adopted for valuation by the tariff, seems to be that of attaining as nearly as possible the market value of the articles in Havana,

exclusive only of the duties thereon; and as a general rule, the per centage is arranged upon the following scale, although there are some few exceptions. Cotton and woolen goods and articles of food, $35\frac{1}{2}$ per cent.; linen and silk goods, and articles of use, $29\frac{1}{2}$ per cent. These are the rates for foreign products imported in foreign bottoms. When of Spanish product or manufacture, imported from Spain, the same goods pay only $9\frac{1}{2}$ per cent. duty, and there is also a differential duty on goods of foreign product or manufacture, of 10 per cent. on the first, and 8 per cent. on the second class, in favor of importations in Spanish bottoms. A few articles pay fixed duties, such as flour, which from Spain pays \$2, and from foreign ports \$10 75 a barrel.

The tariff upon exports is in most instances a fixed arbitrary impost, having no relation to the value of the goods; for instance, sugar pays $87\frac{1}{2}$ cents a box, coffee 20 cents a quintal, segars 75 cents a thousand, &c. The tonnage duties are levied at the rate of $62\frac{1}{2}$ cents a ton for Spanish, and \$1 50 per ton for foreign vessels, according to Spanish measurement. There are several other small tonnage imposts, as health, dredging, &c., and fees and dues for visits, clearance, lights, &c. Under the warehouse or bonded system, goods entered and cleared in bond

pay $1\frac{1}{4}$ per cent. entry, the same for clearance, and $1\frac{1}{4}$ per cent. storage yearly, after the first year. Materials for railroads, machinery for sugar estates, books and instruments for scientific institutions, and a small number of other articles are free of duty.

II. INTERNAL TAXES.—The principal items of this class of revenue are the following:—

Alcabala, a tax of six per cent. on the value of real estate and slaves sold or transferred. There is also an additional tax of six per cent. on the amount of the *alcabala*, which is imposed under certain circumstances. The annual yield of this impost varies between \$600,000 and \$700,000.

Meats consumed.—A tax of \$3 50 per head on all beef cattle, $37\frac{1}{2}$ cents for each sheep or goat, and $31\frac{1}{4}$ cents for each arrobe of swine killed for consumption, and $12\frac{1}{2}$ cents per arrobe on all meat killed for drying or curing purposes. The annual yield of this tax varies from \$500,000 to \$600,000.

Tithes.—Ten per cent. on the product of the haciendas, potreros, and all small cattle breeding or labor farms. Two-and-a-half per cent. on the product of sugar, coffee, and tobacco plantations. The annual yield of this tax to the government varies from \$400,000 to \$500,000.

Stamps.—An impost raised by the obligatory use

of stamped paper in all official intercourse (except diplomatic), tribunals, public instruments, bills of exchange, promissory notes, &c. The paper for common uses, is divided into six classes, the price for each sheet being for the first, \$8; second, \$6; third, \$1 50; fourth, 50 cents; fifth (for official intercourse), and sixth (for the declared pauper), 5 cents each. This tax produces from \$250,000 to \$300,000. The *stamps* for bills of exchange and notes, are graduated at $18\frac{3}{4}$ cents for \$250 and under; $37\frac{1}{2}$ cents for \$625 and under; 75 cents for \$1,250 and under, and 75 cents for each additional \$1,250. The annual product from this tax is between \$35,000 and \$45,000, in addition to the above stated product from other stamps.

Judicial Fees.—The judges of the *Real Audiencia*, and the *Alcaldes Mayores* having a fixed salary, the fees accruing to them are paid into the royal treasury, and yield to it from \$50,000 to \$55,000 yearly.

Tax on Costs.—A tax of four per cent. on all assessed costs of judicial proceedings, yields annually from \$50,000 to \$70,000.

Shops and Stores.—A fixed impost of \$30 each, in Havana, and \$25 in other parts of the island, yielding from \$125,000 to \$150,000 annually.

Mortgages.—A tax of one-half of one per cent. on

the value of all property sold is collected through the registrar of mortgages; yielding from \$40,000 to \$50,000, per annum.

There are several minor imposts, as tax on cock-pits, yielding from \$20,000 to \$30,000—on house servants, water tax at Havana, *novenos reales*, auction tax, &c.

III. DIRECT REVENUE.—Includes items of direct income to the treasury, which are not taxes, among which the principal are :

Lottery.—Carried on by the government, which reserves twenty-five per cent. of the gross amount of each scheme. It is drawn every three weeks, and yields annually from \$650,000 to \$670,000.

Post-Office.—Yields a net annual revenue of about \$100,000.

Fees of the Captain-General.—These fees are by law to be paid into the treasury; but in the returns for the year 1853 (the latest we possess), the amount is not stated. Well-informed persons suppose it to amount to \$100,000, and some place it as high as two or three times this sum.

Fines, Confiscations, &c..—Are payable directly into the treasury, but they cannot be estimated.

IV. STATE PROPERTY.—The property of the State

in Cuba yields an income naturally variable. It arises principally from the following sources:

Church Property.—The administration of the expropriated church property, and occasional partial sales, produces a regular income. In 1850, it amounted to about \$200,000.

Rentals.—Rents of State lands and property yields from \$40,000 to \$50,000 annually.

Land Sales.—The sales of public lands in 1850, produced \$37,000.

Church Revenues, expropriated by the State, yield in the same year \$87,000.

There are some minor branches of income which brings up the annual yield of this class to about \$400,000.

The declared revenue of the Spanish government in Cuba, in 1852, the latest of which we have been able to obtain complete returns, was as follows:

I. Maritime revenue,	\$8,870,000
II. Internal taxes,	2,750,000
III. Direct revenue,.....	980,000
IV. State property,	400,000
	<hr/>
	\$13,000,000

But in order to arrive at a knowledge of the approximate amount of government exactions in

Cuba, we should add to the foregoing the following items, which are properly state burdens, and constitute revenue.

<i>Tax on slaves imported</i> —for which \$51 each is collected by officials—yearly average, 10,000, .	\$510,000
<i>Municipal revenues</i> of the several ayuntamientos, and municipalities in the island,	600,000
<i>Income</i> of the non-salaried administrative officers of the government—two Governors (of Matanzas and St. Jago), \$25,000 each,	\$ 50,000
29 Lieut. Governors, at \$5,000,	145,000
299 Captains de Partido at \$1,000, ...	299,000
Subordinate officers,.....	326,000
	<hr/>
	820,000

Income of non-salaried judiciary officers :

42 Alcaldes ordinarios, at \$5,000,....	\$210,000
100 Assessors (crown law officers), at	
\$5,000,.....	500,000
450 Subordinate officers of courts, at	
\$800,	360,000
	<hr/>
	1,070,000
<i>Income</i> of non-salaried officials,.....	\$ 3,000,000
<i>Revenue before stated</i> ,.....	<hr/> 13,000,000
Total revenue,	\$16,000,000

This estimate does not pretend to include all the exactions to which the people of Cuba are subjected by the officials of the present government, but only the pay of those administrative and judiciary offi-

cers, who, under proper systems of government, are paid fixed salaries by the State, in order to prevent as far as possible, an abuse of the power they must necessarily wield in the community. To show the character and extent of this abuse, we copy the following extract from Gen. Concha's work on Cuba, published in Madrid, in 1853 :

“The absence of fixed salaries makes official situations uncertain in the extreme, under which the probabilities of their proving lucrative can only be estimated by antecedents. What, then, must any one think, calculate, or hope for, who, soliciting or accepting an appointment, sees that after a few years an incumbent returns to Spain with a fortune, not such as he might have made by means of the strictest economy, while holding one of the best paid places at home, but one comparable only to those made by fortunate speculators. * * * * For many reasons, it is unfortunately too notorious that an officer of a special tribunal was able to save or make from his office, in the short space of four months, more than FORTY THOUSAND DOL- LARS !”¹

The appropriation of the revenue of Cuba, as

¹ “Memoria sobre el Estado politico de Cuba, por Gen. José de la Concha,” p. 331.

nearly as it can be made up from the returns of the Havana treasury, is as follows:

CIVIL LIST.

Pay and expenses of executive officers,	\$ 250,000
Perquisites of same,.....	1,330,000
Pay and expenses of judiciary,	110,000
Perquisites of same,.....	1,070,000
Municipal expenditures,.....	600,000
Junta de Fomento, public works,	350,000
Church service,	200,000
Government police,.....	\$75,000
Civil do.	90,000
Civil pensions,	\$130,000
Church, do.	120,000
Heirs of Columbus, do.,....	16,000
	166,000
Public charities,.....	33,000
Public schools,	12,000
Prisons,	65,000
Pay and expenses of treasury,	740,000
Balances to other treasuries,	510,000
Difference between the gross amount of revenue, as returned in the "Ba- lanzas de Comercio," and net reve- nue declared,.....	2,079,000
	\$7,680,000

ARMY LIST.

Pay roll of

19 Reg., 4 comp. Infantry,	\$1,700,000
2 Regiments, Cavalry,	210,000
1 Reg., 5 comp. Artillery,	380,000
General officers,	53,000
Engineer corps,	86,000
	—————\$2,429,000
Clothing, equipment, and arms,	90,000
Cattle and equipment,	230,000
Material for artillery corps,	155,000
Ditto " engineer do,	125,000
Transportation,	150,000
Other expenditures for the army,	100,000
Hospitals,	300,000
Military pensions,	155,000
Pay roll of Militia Infantry,	\$12,000
do. do. Cavalry,	53,000
	—————65,000
	—————\$3,799,000

NAVY LIST.

Pay roll, and expenses of ships, dockyards, &c., \$1,750,000

REVENUE TO THE CROWN.

Drafts of the general treasury at Madrid,	\$2,450,000
Annual remittance to Maria Christina,	166,000
Interest on drafts from Spain,	22,000
Spanish ministers and consuls in America,	117,000
Annual remittance of segars for the court,	16,000
	—————\$2,771,000

RECAPITULATION.

Civil List,	\$7,680,000
Army List,	3,799,000
Navy List,	1,750,000
Revenue to the Crown,	2,771,000
	<hr/>
	\$16,000,000

The net income to the crown of Spain from the island of Cuba, it will be seen, is about two and three quarters millions. The published returns show that from 1836 to 1850 it averaged about two millions eight hundred thousand dollars. While this revenue flows into the coffers of the State, the administration proper has another source of revenue in Cuba, in the percentage upon the product of their offices which many officers in that island pay to the officers in power in the mother country, that they may retain their places.

Baron Humboldt has given, in the preceding pages, a succinct view of the declared revenue of Cuba to 1825, to which we can add the following, compiled from the works of Don Ramon de la Sagra, the "Cuadro Estadistico," and several "Balanzas," in our possession :

1826 to 1830	\$42,808,182
1831 " 1835	43,373,087
1836 " 1840	50,650,982
Carry forward	<hr/> \$136,832,251

	Brought forward . . .	\$136,832,251
1841 " 1845	54,465,970	
1846 " 1850 (approximate)	57,500,000	
1851 ¹	12,462,834	
1852	12,873,086	
Total	\$274,134,141	

A comparison of the foregoing views of the revenue of the Spanish government in Cuba, with its revenue in the vice-royalty of Mexico in 1809, the year in which the revolution began, may not be uninteresting. General Zavala, in his "Ensayo Historico de la Revolucion de Mexico," states the revenues of the vice-royalty in detail, which reduced to a tabular form, exhibit the following figures :

REVENUE.

Mexico.	Cuba.
I. Mining revenue, \$3,837,954	I. Maritime revenue, \$8,870,000
II. Internal taxes, 5,793,064	II. Internal taxes, 2,750,000
III. Direct revenue, 1,487,116	III. Direct revenue, 980,000
IV. Tobacco monopoly, 3,927,822	IV. State property, 400,000
<hr/> \$15,045,956	<hr/> \$13,000,000

¹ In estimating the revenue for 1851 and 1852, we have added to the maritime revenue, as given by the "Balanzas" for those years, an estimated revenue of four millions from other sources.

EXPENDITURES.

Mexico.		Cuba.
I. Civil list,	not stated	I. Civil list, — —
II. Army and Navy, \$3,800,000		II. Army and Navy, \$5,549,000
III. Judiciary & Church, 250,000		III. Judiciary & Church, 310,000
IV. Pensions, 200,000		IV. Pensions, 321,000
V. Hospitals, 400,800		V. Hospitals, 300,000
VI. Treasury expenses, 596,260		VI. Treasury expenses, 740,000
VII. Interest, 1,496,000		VII. Interest, 22,000
	—————	—————
	\$6,743,060	\$7,242,000

These data show that the financial condition of the government of Cuba at the present time, and that of the Spanish government in Mexico at the time of its greatest prosperity, are very similar ; but we should remember that the population of the two countries at the relative periods of time is widely dissimilar, that of Cuba being a million and a half, and that of Mexico seven millions.

The system under which this enormous sum of sixteen millions of dollars is extracted from less than a million and a half of people, exercises, apart from its large amount, a very pernicious influence upon the public welfare. The imposts upon food, and articles of common use, by the tariff on imports, and the tax on meats killed in the country, throw more than sixty per cent. of the declared revenue directly upon

the labor of the country, while the system of non-paid officials and officers of justice, tends to throw the burden of their support upon the poor, it being notorious that the wealthy can obtain favor by personal influence. Thus, nearly the whole burden of the State is thrown upon the common people, which tends to accumulate wealth in the hands of the few, making the rich richer, and the poor poorer, to the manifest disadvantage of the common weal.

With such a buoyant prosperity, what might we not hope from Cuba, if the millions which are now drawn from the fountains of her wealth to support a foreign and corrupt government, and a large non-producing armed force, were allowed to flow in their natural channels, to the reward of labor, the increase of individual wealth, and the advance of the public welfare.]

CHAPTER XIII.

A TRIP TO TRINIDAD.

Change of plans—Preparations for departure—Remission of specimens to Europe—Long absence without letters—Joyful news—Difficulties to be surmounted—Objections met—Charter of a schooner—Financial arrangements—Departure—Grateful acknowledgments—The Orleans princes—Road across the island—Cotton plant—Batabanó—Supposed encroachments of the sea—Gloom of the marshes—Cocodrilos and Caymans—Their habits and characteristics—Specimens—Comparison with those of South America—Suggestions—Dampier's description of them—Embarcation—Discomfort on board—Gulf of Batabanó—Isle of Pines—Jardines and Jardinillos—Struggle of Columbus here—Beautiful phenomenon—Temperatures of the sea—Clearness of the water—Cause thereof—Incompetency of pilot—Anchor at night—Multitude of shooting-stars—Absence of life in these regions—Contrast with the time of Columbus—Arts of the Indian fishermen—Similar arts among other uncivilized nations—Visit to the Cays—Their geognostic constitution—Does the sea grow shallow here—Cay Bonito—Pelicans—Barbary of the sailors—Vegetation—Charm of these regions—Memories of Columbus and Cortés—Columbus and the natives—Fleets of pirogues from Yucatan—Hopes of Columbus—His remarkable vision—His pathetic complaints—Hernan Cortés—Stranding of his ship—Gathering of his fleet—Fall of Mexico—Strange vicissitudes—Cay Flamenco—

Fresh water on the Cays—Springs in the sea—Similar springs at Cardenas—The Manatee—Dampier's description of it—Cay de Piedras—The open sea—Its temperature—Marshy coast—Las Casas grant of Indians—Bay of Jagua—Cienfuegos—Hills of San Juan—A bold coast—Mexican wax found in Cuba—River San Juan—Remains of native inhabitants—Sea temperature—Arrival at the river Guaurabo—Ludicrous conveyance to the city—Trinidad—Absence of snow—First settlement—Fine view—Astronomical observations—Hospitality—Dinner given by the governor—Complaints of the inhabitants—Ports of Trinidad, Guaurabo—Casilda—An agreeable evening—Cuban ladies—Departure from Trinidad—Stately conveyance—Fire-flies—Interesting anecdote—Conclusion.

TOWARD the close of April,¹ 1801, Monsieur Bonpland and myself, having completed the series of observations we had proposed making on the extreme northern limit of the torrid zone, were about to depart for Vera Cruz with the squadron of Admiral Aristizabal; but the false intelligence contained in the public gazettes, relative to the expedition of Captain Baudin, induced us to abandon the project we had entertained, of crossing Mexico on our way to the Philippine Islands. Many papers, and particularly those of the United States, announced that

¹ Thus, in the original, but it is undoubtedly a slip of the pen, and should read February instead of "April." Baron Humboldt arrived at Havana, on his first visit to Cuba, on the 19th December, 1800, and sailed from Trinidad on the 16th March, 1801.

two French corvettes, the *Géographe* and the *Naturaliste*, had sailed for Cape Horn, and would run along the coasts of Chili and Peru, from whence they were to proceed to New Holland.

This news excited me greatly, for it again filled my imagination with the projects I had formed during my stay in Paris, when I had not ceased for a moment to urge the ministry of the Directory to hasten the departure of Captain Baudin. While on the point of leaving Spain, I had promised to join the expedition wherever I might be able to reach it. When one desires a thing that may produce untoward results, he easily persuades himself that a sense of obligation is the only motive that influences his determination. Monsieur Bonpland, always enterprising and confident in our good fortune, determined at once to divide our collection of plants into three parts.

In order not to expose all that we had collected, with so much labor, on the banks of the Orinoco, Atabapo, and Rio Negro, to the chances of a long sea voyage, we sent one part to Germany by way of England, another to France by way of Cadiz; and left the third at Havana. We afterwards had reason to congratulate ourselves on the adoption of this course, which prudence counselled. Each part contained, with slight difference, the same species

and classes, and no precaution was omitted to secure the remission of the cases to Sir Joseph Banks, or to the directors of the Museum of Natural History at Paris, in case they should fall into the hands of English or French cruisers.

Fortunately, the manuscripts which I had at first intended to send with the portion sent to Cadiz, were not placed in charge of our friend and fellow-traveller, friar Juan Gonzalez. This estimable young man, of whom I have often had occasion to speak, had accompanied us to Havana, on his way to Spain, and sailed from Cuba shortly after our departure; but the vessel in which he embarked was lost with all her passengers and freight, in a tempest on the coast of Africa. By this shipwreck we lost one of the duplicates of our collection of plants; and also, which was a greater misfortune for the cause of science, all the insects that Bonpland had gathered, under a thousand difficulties, during our voyage to the Orinoco and Rio Negro.

By an extraordinary fatality we remained two years in the Spanish colonies without receiving a single letter from Europe, and those which reached us in the three subsequent years, gave no information in regard to the collections we had sent. One will readily conceive how anxious I was to learn the fate of a diary which contained all our astronomical

observations, and barometrical readings of altitudes, and which I had so patiently copied out in full. It was only after having traversed New Granada, Mexico, and Peru, and when I was on the point of leaving the New World, that in the public library at Philadelphia, I accidentally ran my eye over the table of contents of a scientific review, and there saw these words, "Arrival of the Manuscripts of M. Humboldt, at the residence of his brother, in Paris, by way of Spain." With difficulty I suppressed the expression of my joy, and it seemed to me that no table of contents had ever before been so well arranged.

While M. Bonpland labored night and day, dividing and arranging our collections, I had the ungracious task of meeting a thousand obstacles that presented themselves to our sudden and unforeseen departure. There was no vessel in the harbor of Havana that would convey us to Porto Bello or Carthagena, and the persons whom I consulted took a pleasure in exaggerating the inconveniences that attended the crossing of the isthmus, and the delays incident to a voyage southward, from Panama to Guayaquil, and thence to Lima or Valparaiso.

They censured me, and perhaps with reason, for not continuing to explore the vast and rich countries of Spanish America, which had been closed for

half a century to foreign travellers. The vicissitudes of a voyage round the world, touching only at a few islands, or the arid coasts of a continent, did not seem to them preferable to studying the geological constitution of New Spain, which alone contributed five-eighths of the mass of silver taken yearly from all the mines of the known world. To these arguments, I opposed the wish to determine on a large scale, the inflexion of the curves of equal inclination of the decrease of the magnetic force from the pole toward the equator, and the temperature of the ocean as it varies with the latitude, the direction of the currents, and the proximity of banks and shoals.

In proportion as obstacles rose to my plans, I hastened the more to put them in execution, and not being able to find a passage in a neutral vessel, I chartered a Catalan schooner lying in the roadstead of Batabanó, to take me to Porto Bello or Cartagena, as the winds might permit. The extended relations of the prosperous commerce of Havana afforded me the means for making my pecuniary arrangements for several years. General Gonzalo de O'Farril, distinguished alike for his talents and his high character, then resided in my own country, as minister from the court of Spain. I was enabled to exchange my income in Prussia for a part of his in the island of Cuba, and the family of Don

Ygnacio O'Farril y Herrera, his brother, kindly did all they could to forward my projects at the time of my unexpected departure from Havana.

On the sixth of March, we learned that the schooner I had chartered was ready for sea. The road to Batabanó led us again through Güines, to the sugar plantation of Rio Blanco, the residence of Count de Jaruco y Mopox, which was adorned with all the luxuries that good taste and a large fortune can command. That hospitality which generally wanes as civilization advances, is still practised in Cuba with the same profusion as in the most distant countries of Spanish America. We naturalists and simple travellers accord with pleasure to the inhabitants of Havana, the same grateful acknowledgments that have been given to them by those illustrious strangers,¹ who, everywhere that I have followed their route, have left in the New World the remembrance of their noble simplicity, their ardor for learning and their love for the public weal.

From Rio Blanco to Batabanó, the road passes through an uncultivated country, a portion of which

¹ The young princes of the House of Orleans (the Duke d'Orleans, the Duke de Montpensier, and the Count de Beaujolois), who visited the United States and Havana, descending the Ohio and Mississippi rivers, and remained a year in the island of Cuba.—H.

contains many springs. In the open spaces the indigo and cotton plants grow wild for want of cultivation. As the capsule of the *Gossipium* opens at that season of the year when the northern storms are most frequent, the fibre which surrounds the seed is torn from side to side, and the cotton, which in other respects is of the best quality, suffers greatly when the period of the storms coincides with its ripening. Further south we found a new species of the palm, with fan-like leaves (*corifa maritima*), having a free filament in the interstices between the leaves. This corifa abounds through a portion of the southern coast, and takes the place of the majestic royal palm, and the *coco crispa* of the northern shore. Porous limestone (of the Jurassic formation) appeared from time to time in the plain.

Batabanó was at this time a poor hamlet, where a church had been built a few years before. Half a league beyond it the swamp begins, which extends to the entrance of the Bay of Jagua, a distance of seventy leagues from west to east. It is supposed at Batabanó that the sea continues its encroachments upon the land, and that the oceanic irruption has been observed particularly at the time of the great upheaving at the close of the eighteenth century, when the tobacco mills near Havana were destroyed, and the course of the river Chorrera was changed.

Nothing can be more gloomy than the view of the marshes around Batabanó, for not a tree breaks the monotony of the scene, and the decaying trunks of a few palms only rise, like broken masts, in the midst of great thickets of running vines and purple flag flowers.

As we remained only one night at Batabanó, I regretted that I could not obtain exact information relative to the two species of *cocodrilos* that infest the swamp. The inhabitants call one the *cayman*, and the other the *cocodrilo*, which name is generally applied to both. We were assured that the latter is the most agile, and the tallest when on its feet; that its snout runs to a much sharper point than that of the cayman, with which it never associates. It is very fearless, and is even said to leap on board of vessels when it can find a support for its tail. The great daring of this animal was noticed during the early expeditions of Diego Velasquez. At the river Cauto, and along the marshy coast of Jagua, it will wander a league from the sea-shore to devour the hogs in the fields. Some attain a length of fifteen feet, and the most savage of them will, it is said, chase a man on horseback like the wolves of Europe —while those that are known as *caymanes* at Batabanó, are so timid that the people do not fear to bathe in waters where they dwell in droves.

These habits, and the name of *cocodrilo*, which is given in Cuba to the most dangerous of the carnivorous saurians, seem to me to indicate a different species from the great animals of the Orinoco and Magdalena rivers, and St. Domingo. The colonists in all other parts of Spanish America, deceived by the exaggerated tales of the ferocity of the Egyptian crocodile, affirm that there are no true crocodiles except in the Nile; while zoologists have found in America the *cayman*, with obtuse snout and no scales on his legs, and the *cocodrilo*, with pointed snout and with scales on his legs. At the same time we find on the old continent, the common crocodile, and those of the Ganges, with rounded snout.

The *crocodilus acutus* of St. Domingo, which I cannot now undertake to class specifically, and the *cocodrilo* of the great Orinoco and Magdalena rivers, have, in the words of Cuvier, so admirable a resemblance to the crocodile of the Nile, that it has been necessary to examine minutely every part, in order to show that the law of Buffon, relative to the distribution of species in the tropical regions of the two continents, was not defective.

As on my second visit to Havana, in 1804, I could not revisit the marshes of Batabanó, I procured at a great expense specimens of the two species, which the inhabitants call *cayman* and *cocodrilo*.

Two of the latter reached Havana alive, the oldest being about four feet three inches long. Their capture had been very difficult, and they were brought to the city muzzled, tied upon the back of a jack-mule. They were strong and ferocious, and in order to observe their habits and movements, we put them in a large room, where, from the top of a high table, we could see them attacked by dogs.

Having been for six months on the Orinoco, Apure, and Magdalena rivers, in the midst of cocodrilos, we observed with renewed pleasure, before our return to Europe, these singular animals, that pass with an astonishing rapidity from a state of complete immobility to the most impetuous motion. Those which were sent to us from Batabanó as cocodrilos, had the snout as pointed as those of the Orinoco and Magdalena (*Crocodilus acutus*, Cuv.); their color was somewhat darker, being a blackish-green on the back, and white on the belly, with yellow spots on the sides. I counted thirty-eight teeth in the upper, and thirty in the lower jaw, as in the true crocodile. Of the upper teeth, the ninth and tenth, and of the lower, the first and fourth, were the largest. The description which Bonpland and myself made on the spot at Costa Firma, expressly states that the fourth lower tooth projects freely over the upper jaw; the posterior extremities were flat-

tened. These cocodrilos of Batabanó, seemed to us, specifically the same with the *crocodilus acutus*, although it is true that what we were told of its habits, does not accord with what we ourselves had observed on the Orinoco; but the carnivorous saurians of like species, and in the same river, are mild and timid, or ferocious and fearless, according to the nature of the locality.

The animal called cayman at Batabanó, died on the way to Havana, and those in charge had not the foresight to bring the body to us, so that we were not able to compare the two species. Are there, perhaps, on the south side of Cuba true caymans, with the rounded snout, and the fourth under tooth entering the upper jaw; and another species (alligators), like those of Florida? In view of the assertions of the colonists relative to the more pointed head of the cocodrilo of Batabanó, this is almost certain. If this is the case, the people of the island have made, by a happy instinct, a distinction between the cocodrilo and the cayman, with all the exactitude now used by zoologists in separating families that belong to the same genera, and bear the same name.

I do not doubt that the sharp-snouted cocodrilo, and the alligator or flat-nosed cayman do not live together, but in distinct bands, on the marshy shores

between the bay of Jagua, Batabanó, and the isle of Pines. It was at the latter that Dampier, so worthy of eulogy as a physiological observer and intrepid sailor, perceived clearly the great difference between the cayman and the American cocodrilo. His statements on this point, in his voyage to the bay of Campeachy, might have excited the curiosity of the learned a century since, if zoologists would not so often reject, with disdain, the observations of navigators, and other travellers, who do not possess scientific attainments, relative to animals. Dampier, after having noticed many of the characteristics, though not all with equal exactitude, that distinguish the cocodrilo from the cayman, insists upon the geographical distribution of these enormous saurians.

"In the bay of Campeachy," he says, "I have seen only caymans or alligators; in the island of Gran Cayman there are cocodrilos, and no alligators; in the isle of Pines, and in the numerous creeks of the coast of Cuba, there are cocodrilos and caymans together." To these precious observations of Dampier I will add, that the true cocodrilo (*C. acutus*) is also found in the Leeward Islands, which are near to Costa Firma, as, for example, Trinidad, Margarita, and probably also in Curaçoa, notwithstanding the scarcity of fresh water. It is

also found further south (but I have never found with them any of the species of alligators that abound on the coast of Guiana), in the Neverí, Magdalena, Apure, and the Orinoco, to the confluence of the Casiquiaro with the Rio Negro (lat. $2^{\circ} 2'$), which is more than four hundred leagues from Batabanó. It would be important to determine the limits of the several species of carnivorous saurians, on the eastern shore of Guatemala and Mexico, between the Mississippi river and Chagres.

Before sunrise, on the ninth of March, we were under way, somewhat intimidated by the extremely small size of our schooner, on board of which we could lie down only upon deck. The well-like cabin received air and light from above, and barely afforded room for our instruments; in it the thermometer stood constantly at 32° or 33° c. (90° or 92° F.). Fortunately, these inconveniences lasted only twenty days, and the navigation of the Orinoco in canoes, and a passage at sea on board of an American vessel laden with beef which had been dried in the sun, had taught us not to be too delicate.

The Gulf of Batabanó, surrounded by low and marshy coasts, seems like a vast desert. The fisher birds, which generally are found at their posts before the land birds, and the lazy *zamurros* are awake,

are only occasionally seen. The water of the sea has a dark green color, as in some of the lakes of Switzerland, while the sky, from the great purity of the atmosphere, had from the first appearance of the sun, that clear blue so much admired by landscape painters in the south of Italy; and through the pure air the most distant objects stood forth to the view with an extraordinary brilliancy.

Our schooner was the only vessel in the gulf, for none enter the roadstead of Batabanó but smugglers, or, as they are called, with greater courtesy, "the traders." I have mentioned before, when speaking of the project of a canal through Güines, how important Batabanó might become to the trade between Cuba and Venezuela. In its present state there are barely nine feet of water, as no attempt has been made to deepen it. The port is at the bottom of a bay formed by Punta Gorda on the east, and Punta de Salinas on the west; but the bay itself is only the concave side of a great gulf, which is fourteen leagues deep from north to south, closed by an innumerable number of cays and banks for a distance of fifty leagues, from the bay of Cortéz to Cay de Piedras.

Within this labyrinth there rises one large island only, the area of which is four times greater than Martinique, and whose arid hills are crowned with majestic pines. This is the Isle of Pines, named the

“Evangelist” by Columbus, and the island of Santa Maria by other navigators of the sixteenth century. It is celebrated for the excellent mahogany which it produces.

We sailed east-southeast through the Don Cristobal channel, to make the rocky shores of Cay de Piedras, and clear the archipelago which the Spanish pilots, from the earliest times of the conquest, have called the *Jardines* and *Jardinillos*. The true *Jardines de la Reina* (the Queen’s gardens), nearer to Cape Cruz, are divided from the archipelago which I am about to describe, by thirty-five leagues of open sea. Columbus gave them this name in 1494, when, during his second voyage, he was fifty-eight days struggling with the winds and currents between the Isle of Pines and the eastern cape of Cuba. He described these islands as being “green, filled with trees, and very beautiful.”

And in truth a portion of these misnamed gardens is very beautiful, for the voyager varies the scene momently, and the verdure of some of the islets borrows a new splendor from the contrast with others that present to the eye only white and arid sands. The surface of these, heated by the rays of the sun, seems to undulate as though it were water, and by the contact with the strata of air of unequal tempera-

ture, produces from ten in the morning until four in the afternoon, all the varied phenomena of the mirage. In those desert solitudes it is the sun that animates the landscape, giving motion to the objects that glitter under his rays; the dusty plain, the trunks of trees, and the rocks jutting out into the sea. From the time of his rising these inert masses seem suspended in the air, and the sandy beaches present the deceitful spectacle of a watery plain gently agitated by the wind. A shred of cloud suffices to throw down alike, the trunks of trees and the suspended rocks, to still the undulating surface of the plain, and to dissipate those charms which the Arabian, Persian, and Indian poets, have celebrated in song as "the sweet illusions of the desert solitude."

We doubled Cape Mataambre very slowly. As the chronometer of Louis Berthoud had kept time well in Havana, I improved the opportunity to determine, on that and the following days, the positions of the Don Cristobal, Flamenco, Diego Perez, and Piedras cays. I also found occupation in examining the influence of the varying depth upon the temperature of the surface water. Sheltered by so many islets the surface is always calm, as if it were a lake of fresh water; the strata of different depths do not

mingle with each other, and yet the slightest change in the soundings influence the thermometer.¹

I was surprised to find that east of the small cay Don Cristobal, the deep soundings are not marked by the milky color of the water, as is the case on Shark Shoals south of Jamaica, and in many other places where I have observed with the thermometer. The bottom of the Gulf of Batabanó is a sand of decomposed coral, bearing sea-wreck that barely reaches to the surface. The water is greenish, as we have already noted, and the absence of the milky color arises, without doubt, from the perfect calm that reigns in these places; for wherever the water is agitated to a certain depth, a very fine sand, or the particles of limestone held suspended in the water, make it turgid and give it the milky tinge. Yet there are shoals which are not distinguished either by the color or the lower temperature of the sea, and

¹ I observed the following readings by Reaumer's thermometer :

Sea.	Air.	Depth.	
19°.7	22°.3	10 feet.	Eight miles N. of Punta Gorda.
18°.8	23°.0	7½ "	Between Las Gordas and Don Cristobal Cays.
19°.7	22°.2	10 "	Near Cay Flamenco.
20°.7	22°.0	80 "	Deep soundings between Cay Flamenco and Cay de Piedras.
19°.6	24°.2	9 "	Eastern margin of same, very near Cay de Piedras.
18°.2	24°.3	8 "	A little further east.
21°.5	23°.0	—	No bottom south of Jagua.

I believe these phenomena result from the nature of a hard and rocky bottom, without sand or coral, from the form and inclination of the foundations, the velocity of the currents, and the absence of a communicating motion in the lower strata of water. The low temperature generally indicated by the thermometer, on the surface of deep water, arises from the sinking of the heated particles caused by their diffusive movement and nocturnal cooling, and by the mingling of the deep strata which rise along the sides of the banks, as upon an inclined plain, to unite with the surface waters.

Notwithstanding the small size of our craft, and the much praised skill of our pilot, we grounded very often; but as the bottom was soft, we incurred no danger. Yet at sunset it was thought best to anchor near the outlet of the Don Cristobal channel. The sky was admirably clear during the first part of the night, and we saw a multitude of shooting stars landward of us, all passing in the same direction, counter to the east wind which then prevailed in the lower portions of the atmosphere. The solitude of these regions differs widely now from their appearance in the time of Columbus, when they were inhabited, and frequented by large numbers of fishermen. The natives of Cuba then availed themselves of a small sucker-fish to catch the large sea-

turtle, tying a long cord to the tail of the *reves*, a name which the Spaniards gave to this small member of the Echeneis genera.

This *fisher-fish* fastens itself to the shell of the turtle, which abound in the narrow and winding channels of the Jardinillos, by a flat disc surrounded with suckers, which it bears upon its head. Columbus says, "the *reves* will suffer itself to be torn to pieces rather than be forced to lose any body of which it has taken hold." Thus, with the same cord, the Indians drew forth the fisher-fish and the turtle. When Gomara and Pedro Martir de Anglera, the learned secretary of Charles V., related to Europe this fact which they had learned from the lips of the companions of Columbus, it was believed to be only a traveller's tale.

We now know by the evidence of Captain Rogers, of Dampier, and Commerson, that this same artifice, which was used in the Jardinillos, is practised by the inhabitants of the eastern coast of Africa near Cape Natal, in Mozambique and in Madagascar. In Egypt, in St. Domingo, and in the lakes of Mexico, men were accustomed to cover their heads with large perforated gourds, and lying with their bodies in the water, caught the water fowl by their feet as they swam upon its surface. The Chinese have availed themselves from the most remote antiquity,

of birds of the pelican family, for the purpose of fishing on the shores, placing rings around their necks to prevent their swallowing the prize and thus fishing only for themselves. In the lower grades of civilization, all the sagacity of man is displayed in the artifices of the chase and fishery. Nations that probably have never communicated with each other, present the most palpable analogies in the means they adopt to subdue the animal creation.

Three days passed before we could emerge from the labyrinth of the Jardines and Jardinillos. We were every night at anchor, and during the day visited those islets or cays, where we could most easily land. As we advanced toward the east, the sea became less smooth, and we began to recognize the shallows by the milky color of the water. Upon the margin of a kind of whirlpool which exists between Cay Flamenco and Cay de Piedras, we found that the temperature of the sea at the surface, suddenly increased from $23^{\circ}.5$ to $25^{\circ}.8$ C. ($74^{\circ}.3$ to $78^{\circ}.4$ F.)

The geognostic constitution of the small islands that surround the Isle of Pines was the more interesting to me, from the fact that I was slow to believe the accounts of the coral structures of Polynesia, that were said to rise from the profound depths of the ocean to the surface of the water; for it seemed to

me more probable that those enormous masses were founded upon some primitive or volcanic rock, to which they were attached at a small depth. The limestone formation of Güines, partly compact and lithographic, and partly spongy, continued to Batabanó. It is very similar to the limestone formation of the Jura, and if we may judge simply by the external appearance, the Cayman islands are composed of the same rock. If the mountains of the Isle of Pines which present, according to the early historians of the conquest, the pine and palm together, are visible at a distance of twenty leagues, their height must be more than 3,200 feet; and I have been assured that they are composed also of a limestone similar to that of Güines.

From these facts, I expected to find the same rock (jurassic) in the Jardinillos; but I have only found, on examining the cays, which rise usually five or six inches above the surface of the water, a fragmentary rock in which regular lumps of coral are cemented, together with a quartz sand. Sometimes the fragments had a volume of one or two cubic feet, and the grains of sand have so completely disappeared, that one might believe that the lithophite polypus had remained there in numerous layers. The mass of this group of cays appeared to me to be a true agglomerate limestone, quite analogous to the ter-

tiary limestone of the peninsula of Araya, near Cumaná, but of a more recent formation. The inequalities of these coral rocks, are filled with the detritus of shells and madrepore. All that rises above the surface of the sea is composed of broken lumps cemented by carbonate of lime, in which grains of quartz sands are held. I do not know if, under this fragmentary coral rock, structures of living polypus are to be found, at a great depth, and whether they adhere to the Jurassic formation.

Mariners believe that the sea gradually diminishes in depth in this vicinity, perhaps because they perceive the cays to grow and rise up, either from the sandbanks which the beating of the waves forms, or by successive agglutinations. Besides, it might not be impossible, that the widening of the Bahama channel, through which the waters of the Gulf Stream emerge, should cause in the lapse of time, a slight lowering of the level of the sea on the south side of Cuba, and particularly of the Gulf of Mexico, the centre of the great whirlpool of that pelagian river which washes the shores of the United States, and casts the fruits of tropical plants on the coasts of Norway.

The form of the coasts, the direction, force, and duration of certain currents, and certain winds, and the variations they experience from the changeable

nature of the forces affecting them, are causes the concurrence of which for a long time within narrow and shallow limits might alter the equilibrium of the sea.¹ When the shores are so low that the level of the country for a league inland, varies only a few inches, these risings and fallings of the sea excite the imaginations of the inhabitants.

Cay Bonito (Beautiful Cay), which was the first I visited, is worthy of its name from the force of its vegetation. Everything indicates that it has been a long time above the surface of the ocean, for the interior of the cay is hardly lower than its margin. From a layer of sand and broken shells, covering the fragmentary coral rock to the depth of five or six inches, a forest of mangroves rises, which when seen from a distance, seem from their height and foliage to be laurel trees. The *avicennia nitida*, *batis*, small *euphorbia*, and several grassy plants, serve to fix the movable sand with their roots. But what particularly characterizes the flora of these

¹I do not pretend to explain, by these same causes, the phenomena which we see on the coast of Sweden, where the sea has the appearance of an unequal fall at several points, amounting to from three to five feet in the century. A supposed analogy has occurred to the inhabitants of Dutch Guiana.—*Bolingbroke, Voyage to Demarara*, p. 148.—H.

coral islands¹ is the beautiful silver-leaved tournefortia gnaphalioides of Jacquin, which I first found there. It is not a solitary plant, and forms a tree four or five feet in height, its flowers having an agreeable odor. It also adorns Cay Flamenco, Cay de Piedras, and perhaps the greater part of the low islands of the Jardnillos.

While we were engaged in botanizing our sailors sought for sea crabs, and irritated with ill success, they soothed their anger by climbing the mangrōve trees, and committing terrible havoc among the young *alcatraces*, which were snugly ensconced in pairs in the nests. Throughout Spanish America, this name is applied to the blackish, swan-sized pelican of Buffon. The *alcatraz*, with that indolence and stupid confidence which characterizes the larger sea birds, forms its nest by twining together a few

¹ We gathered : *Cenchrus myosuroides*, *Euphorbia buxifolia*, *Batis maritima*, *Iresine obtusifolia*, *Tournefortia gnaphalioides*, *Diomedea glabrata*, *Cakile cubensis*, *Dolichos miniatus*, *Parthenium hysterophorus*, etc. This latter plant, which we found in the valley of Caraccas, and on the temperate plains of Mexico, between elevations of three thousand and six thousand feet, grows in all the fields of Cuba. The inhabitants use it for aromatic baths, and to destroy fleas, which so abound within the tropics. In Cumaná many species of *Casia* are used, for their odor, against these troublesome insects.—H.

twigs only, and we often found four or five of these in one tree. The young birds defended themselves valiantly with their bills, which were already six or seven inches long, while the old ones flew above our heads uttering hoarse and mournful cries; but the streams of blood continued to trickle down the trees, for the sailors were armed with clubs and cutlasses. Though we expostulated with them against this cruelty and useless tormenting, they would not desist; these men, accustomed to long obedience in the solitude of the sea, take a singular pleasure in exercising a cruel dominion over the animal creation whenever an opportunity presents itself. The ground was covered with wounded birds, struggling with death, so that this retired spot, which before our arrival was the abode of peace, seemed now to exclaim, Man has entered here.

The sky was covered with a reddish vapor, which began to dissipate in the southwest, and we entertained the disappointed hope of seeing the Isle of Pines. These regions possess a charm that is wanting in the greater part of the New World, for they recall to the mind memories which cluster round the greatest names of the Spanish monarchy: Columbus and Hernan Cortés. It was on the southern coast of the island of Cuba, between the Bay of Jagua and the Isle of Pines, that Columbus, during his second

voyage, beheld with admiration "that mysterious king who communicated with his subjects by signs only, and that group of men wearing long white gowns, like begging friars, while all the rest of the people were naked."

On his fourth voyage he met at the Jardinillos, the pirogues of the Mexican Indians, laden with the rich products and merchandise of Yucatan. Deceived by his ardent imagination, he seemed to hear from the lips of these navigators, "that they had come from a land where men rode upon horses, and wore crowns of gold upon their heads." "Already Cathay, the empire of the Gran Khan, and the mouths of the Ganges," seemed to be near to him, and he hoped soon to avail himself of the two Arabian interpreters, which he had taken on board at Cadiz when departing for America.¹

¹ Compare *Lettera rarissima di Christoforo Colombo di 7 di Julio, 1503*, p. 2, with *Herrera, Dec. 1*, pp. 125-131. Nothing can be more tender or more pathetic, than the sorrowful tone that pervades this letter of Columbus, written at Jamaica, to the Catholic monarchs Ferdinand and Isabel. I particularly recommend to all who wish to study the character of that extraordinary man, his narrative of the nocturnal vision, when, in the midst of the tempest, a celestial voice soothed and cheered him with these words: "God made thy name to resound marvellously throughout the earth. The Indies, which is the richest portion of the earth, He has given thee for thine; thou hast divided it as thou wouldest, and He gave thee

Other memories that hover round the isle of Pines, belong to the conquest of Mexico. When Hernan Cortés was collecting his great expedition, his ship, the Capitana, grounded on one of the reefs of the Jardinillos, while sailing from the port of Trinidad for Cape San Antonio. For five days she was supposed to be lost, when the brave Pedro de Alvarado sent (in November, 1518) from the port of Carenas¹ (Havana) three vessels to his assis-

power so to do. To the boundaries of the ocean, that were closed with a mighty chain, He gave thee the key," etc. These lines, so full of sublime sentiment and poetry, have reached us only by an ancient Italian translation, for the Spanish original, cited in the "Nautical Biblioteca" of Don Antonio Leon, has not yet been found. We may add other expressions, full of candor, from the lips of him who discovered the New World. "Your highness may believe me," he said, "the globe of the world is not, by very much, so large as the vulgar suppose." On the same occasion, he says, "Seven years did I remain at your court, and during all that time I was told that my scheme was madness itself. Now, when I have opened the way, even tailors and shoemakers ask for grants to go and discover new lands. Persecuted and forgotten as I am, I never think upon Espanola and Paria, but my eyes fill with tears. Twenty years have I been in the service of your highness, and all my locks have whitened, my body has become weak, and now I cannot weep; weep for this, heaven, and weep for me, earth; weep for me who-ever has charity, truth, justice."—*Lett. rar.* pp. 13, 19, 34, 37.—H. The reader will find this letter, in Spanish, in Navarrete's "*Colección de Viages*," &c., vol. 1, page 299 *et sequiter*.

¹ At that time there were two settlements, one at the port of

tance. Subsequently, in February, 1519, Cortés gathered his fleet near Cape San Antonio, probably at the place which still bears the name of Bay of Cortés, west of Batabanó, and opposite the Isle of Pines. From that place, where he could more easily free himself from the trammels which the governor, Velasquez, was preparing to throw around him, he sailed, almost clandestinely, for the shores of Mexico. Strange vicissitudes of human affairs! A handful of men, landing from the extreme west of Cuba upon the coast of Yucatan, tore down the empire of Montezuma; and in our time, three centuries later, this same Yucatan, which is part of the confederation of independent Mexican States, has almost menaced a conquest of the western shores of Cuba.¹

Carenas, in the ancient Indian province of Habana (Herrera, Dec. 1, pp. 276-277), and another, the greatest, at the city of San Cristobal de Cuba. In 1519 the two settlements were united, and the port of Carenas took the name of San Cristobal de la Habana. "Cortés," says Herrera (Dec. 11, pp. 80 and 95), "went to the village of San Cristobal, which, at that time, was on the south coast, and afterwards went to Havana."—H.

¹ Humboldt, probably, alludes here to the secret society of "The Black Eagle," which had its principal centre in Mexico, but extended its ramifications throughout Cuba, its object being to achieve the independence of that island. It was discovered and suppressed about the time of his writing, 1825, when its plans had very nearly reached maturity, and many eminent Cubans were forced to flee their country.

On the 11th of March, we visited Cay Flamenco. I found its latitude to be $21^{\circ} 59' 39''$. The centre of the island is low, rising only fourteen inches above the level of the sea. The water on it is brackish, while that on the other cays is perfectly fresh. The mariners of Cuba, as well as the inhabitants of the lagoons of Venice, and some modern physiologists, attribute this absence of salt to the action of the sand as the water filters through it. But how is this action exerted, where its supposed existence is not justified by any chemical analogy? Besides, these cays are composed of rocks, and not of sand; and their small extent presents an objection to the supposition that it is rain water which has gathered and remains standing. Perhaps the fresh water on the cays flows from the adjacent coast, or even from the mountains of Cuba, by the effect of hydrostatic pressure. This would prove that the strata of Jurassic limestone extends under the sea, and that the coral rock is superposed on the limestone.¹

The belief that every spring of fresh or salt water

¹ The ancients were acquainted with these eruptions of fresh water in the sea, near Bayas, Syracuse, and Arado (Phoenicia). The coral islands that surround Radak, particularly the very low island of Otdia, also contain fresh water. A careful examination of these phenomena at the level of the sea, cannot be too strongly recommended to travellers.—H.

is a local phenomenon, is an error that is too widely disseminated, for currents of water circulate in the interior of the earth for long distances, between strata of peculiar density or nature, as do the rivers that wear the surface of the globe. Don Francisco Lemaur, the learned engineer, who subsequently displayed such energy and valor in the defence of the castle of San Juan de Ulua, informed me that in the bay of Jagua, half a degree east of the Jardinillos, springs of fresh water are found boiling up in the midst of the sea, two and a half leagues from the shore.¹ The water rushes from these springs with sufficient force to cause a dashing of the waves, making the vicinity dangerous for small canoes. Vessels that do not wish to go into the harbor of Jagua, sometimes fill their casks at these sea fountains, and the water is more or less cold according as they take it near to, or far from the bottom. The Manatees (sea calves), guided by their instinct, have discovered this region of fresh water, and the fishermen, who are very fond of the flesh of these *cetaceos*

¹ Similar springs of fresh water occur in the bay of Cardenas, on the north coast of Cuba, springing forth with such strength that fresh water can be dipped up with a bucket, in the midst of the sea water. We have been told that in some parts of that town, running water is found under the earth, on sinking wells a short distance.

herbivorous, find them there in abundance, and kill them in the open sea.¹

About half a mile from Cay Flamenco, we sailed near two rocks level with the sea, against which the

¹ The following is Dampier's clear description of this animal, which is still found in some places on the south side of Cuba : "This creature is about the bigness of a horse, and ten or twelve feet long. The mouth of it is much like the mouth of a cow, having great, thick lips. The eyes are no bigger than a small pea ; the ears are only two small holes in the side of the head. The neck is short and thick, bigger than the head. The biggest part of this creature is at the shoulders, where it hath two large fins on each side of its belly. Under each of these fins the female hath a small dug to suckle its young. From the shoulders, towards its tail, it retains its bigness for about a foot, then groweth smaller and smaller to the very tail, which is flat, and about fourteen inches broad, and twenty inches long, and the middle four or five inches thick, but about the edges it is not above two inches thick. From the head to the tail it is round and smooth, without any fin but those two before mentioned. I have heard that some weigh twelve hundred pounds, but I never saw any so large. The Manatee delights to live in brackish water, and they are commonly in creeks and rivers near the sea. * * * They live on grass seven or eight inches long, which grows in the sea in many places. They never come on shore, nor into shallow water where they cannot swim. Their flesh is white, both the fat and the lean, and extraordinary sweet, wholesome meat. The skin of the bull, or of the back of the cow, is very thick, and of it they make horsewhips. While the thongs are green, they twist them, and hang them to dry, which, in a week's time, become as hard as wood."— *Voyage Round the World*, vol. 1, p. 33.

waves dash loudly. They were the Piedras de Diego Perez. The temperature of the sea, at the surface, fell there to 22°.6 C. (72°.7 F.), the depth of water being only six and a half feet. In the afternoon, we reached Cay de Piedras, which is formed by two rocks with breakers between, running N.N.E. and W.S.W. As these two rocks are some distance apart (forming the eastern side of the Jardinillos), many vessels are lost upon them. The cay has hardly any trees upon it, for those who are shipwrecked there, have cut them down in their need to make signal fires. The shore is very steep toward the sea, but near the middle there is a small channel with still water.

We found inclosed in the rock a lump of madrepore, more than three cubic feet in size; and we entertained no doubt that the limestone formation, which from a distance appears much like the Jurassic limestone, was a fragmentary rock. It is desirable that geognostic travellers should some day examine the entire chain of cays that surround the island of Cuba, in order to determine what is due to the insects that still labor in the depths of the sea, and what belongs to the true tertiary formations, whose epoch approaches very nearly with that of the coarse limestone which abounds among the remains of the coral lithophites. That which generally rises

above the sea is usually nothing more than a species of marble, or a collection of fragments of madrepore, cemented by carbonate of lime, with broken shells and sand. It is important to examine, in each cay, upon what this class of rock rests; if it rises from works of still living mollusca, or from those secondary and tertiary rocks, which, from the appearance and preservation of the coral remains they contain, might be supposed to be modern productions. The gypsum of the cays off San Juan de los Remedios, on the northern coast of Cuba, is worthy of great attention; for its epoch surely ascends beyond the era of history, and no geognostic observer will deem it to be the product of the mollusca of our seas.

It was from Cay de Piedras that we first saw, toward the east-northeast, the high mountains that rise back of the bay of Jagua. We again passed the night at anchor, and on the following morning, the 12th of March, running out between the north point of Cay de Piedras and the coast of Cuba, we entered upon the clear and open sea. Its deep blue color, and increased temperature, proved to us the much greater depth of the water. The thermometer, which, in soundings of six and a half, and eight feet of water, we had often found at $22^{\circ}.6$ C. ($72^{\circ}.7$ F.), now rose to $26^{\circ}.2$ C. (79° F.), while during these observations it stood in the air at from 25° to 27° C. (77° to $80^{\circ}.6$ F.). Availing ourselves of the varia-

tions of the land and sea breezes, we kept to the eastward as far as the port of Trinidad, in order to take advantage during our voyage to Carthagena, of the constant northeast winds which then prevailed.

Passing the marshy coast of Camareos, where Bartolome de las Casas, so celebrated for his humanity and noble valor, obtained in 1514, from his friend Velasquez the governor, a good assignment of Indians,¹ we arrived off the bay of Jagua. This harbor is one of the most excellent, and at the same time least frequented in the island. "There may not be another like it in the world," said the old chronicler, Antonio de Herrera; and the surveys and plans for its defence, made by Señor Lemaur, under commission from the Count de Jaruco, have demonstrated that the haven of Jagua is worthy of the celebrity it has obtained from the times of the conquest. A hamlet and a small castle is all that is yet found there, but they serve to prevent the English from careening their ships in the harbor, as they did, without concern, during the war with Spain.²

¹ He renounced it in the same year during a short stay in Jamaica, from conscientious scruples.—H.

² The flourishing town of Cienfuegos now stands upon the borders of this fine harbor, which is the scene of an active commerce at the present time, and the germ of rich promise for the future.

East of Jagua the hills of San Juan approach the coast, and present a very majestic appearance, not so much from their height, which does not exceed 1,900 feet,¹ as from their steep declivities and general form. I was told that the shore, as far as the mouth of the Guaurabo river, is so bold and steep that a ship may lie alongside it at any point. In the evening, when the temperature of the sea fell to 23° C. (73°.4 F.), and the breeze came from the land, we perceived that delightful fragrance of flowers and honey, so characteristic of the shores of Cuba.² We sailed along the coast, at a distance of two or three miles, and just before sunset, on the 13th of March, we found ourselves off the mouth of the river San Juan, so much feared by mariners because

¹ Estimated distance three marine leagues. Angle of altitude, not corrected for the curve of the earth and refraction, 1° 47' 10". Height, 1745 feet.—H.

² I have already observed that the wax of Cuba, which is an important article in its commerce, is due to the bees of Europe (of the genus *Apis*, Latr.). Columbus expressly says, that in his time the natives of Cuba did not gather wax. The great cake of this substance, which he found in the island on his first voyage, and which was presented to King Ferdinand, in the celebrated audience at Barcelona, was found afterwards, to have been brought by Mexican pirogues from Yucatan. It is curious to observe that the wax of the *Melipones* was the first Mexican production that fell into the hands of the Spaniards, in the month of November, 1492.—H.

of the innumerable mosquitoes and sand-flies that fill the air.

The mouth of the river looks like the break of a deep ravine, in which large vessels might enter, were it not for a shoal that closes the channel. This port is much frequented by smugglers from Jamaica, and even by pirates from New Providence. The hills which rise back of it have a height of about 1,450 feet. I passed a great portion of the night upon deck. What lonely shores are these, where not even the light of a fisherman's hut is to be seen! From Batabanó to Trinidad, a distance of fifty leagues, there is not a single village, and only two or three farms where swine and cattle are reared; yet in the time of Columbus, that land was inhabited along its whole extent of shore. When wells are dug here, and when torrents of water, during the heavy rains, wash the surface of the earth, stone hatchets and a few copper utensils¹ are found, the only remains of the ancient inhabitants of the place.

¹ Doubtless, from the copper of Cuba, for the abundance of this metal, in a native state, must have stimulated the Indians of Cuba and Hayti to smelt it. Columbus states, "that in Hayti, masses of native copper of one hundred and fifty pounds weight were found, and that the pirogues of Yucatan, which he met on the south coast of Cuba, carried among other Mexican merchandise, crucibles for smelting copper."—*Herrera, Dec. 1, pp. 86 & 131.—H.*

At sunrise, I persuaded our captain to sound, and at sixty fathoms we did not reach bottom. The temperature of the surface water was much warmer than we had found it elsewhere, being $26^{\circ}.8$ C., (80° F.), exceeding by $4^{\circ}.2$ C. our observations near the breakers of Diego Perez. Half a mile from the shore, the water was only $25^{\circ}.5$ C., (78° F.), and although we had no opportunity to sound, I do not doubt that the depth was less. On the 14th of March, we entered the river Guaurabo, one of the ports of Trinidad, to land the Batabanó pilot who had run us on the mud so often while crossing the banks of the Jardinillos. We also hoped to find there a mail packet, under whose convoy we might sail to Carthagena. I landed in the afternoon, and set on the beach Bordas' dip-needle, and an artificial horizon, in order to observe the passage of several stars across the meridian; but we had hardly begun our preparations, when some Catalan shop-keepers, who had been dining on board a foreign vessel which had lately arrived, invited us with many demonstrations of pleasure to accompany them to the city. These honest people made us mount, two on each horse, and as the heat was excessive we did not hesitate to accept their frank and simple offer.

Trinidad is four miles from the mouth of the Guaurabo in a northeast direction, and the road

runs through a plain apparently formed by long-standing water. It is covered with a beautiful vegetation, to which the *Miraguama*, a species of palm with shining leaves, which we there saw for the first time, gives a peculiar character. This fertile land, although of the red soil, only waits the hand of man to clear and cultivate it, when it will yield abundant crops. Toward the west there is a picturesque view of the hills of San Juan, which form a limestone chain very steep on its southern side, and some 1,800 or 2,000 feet high, their naked and arid summits now rounded and now forming high and steep peaks.¹

Though the temperature falls very low here during the season of the northerns it never snows, but frost and hail only are sometimes seen in these mountains, and in those of St. Jago. I have spoken elsewhere of the difficulty of explaining this absence. On leaving the woods a curtain of hills is seen, the southern slope of which is covered with houses. This is the city of Trinidad, founded by Diego Velasquez in 1514, stimulated thereto by the rich gold mines said to have been discovered in the little

¹ Wherever the rock is seen, I have found a compact whitish-brown limestone, in part porous, and in part with smooth fracture, like the Jurassic formation.—H.

valley of the Arimao river.¹ All the streets of Trinidad are very steep, and the inhabitants there complain, as they also do in the greater part of Spanish America, of the bad selection made by the conquerors of sites for the towns they founded.² The church of Nuestra Señora de la Popa, a celebrated place for pic-nics, stands on the northern side of the town.

Its site appeared to me to be about seven hundred feet above the level of the sea, and commands, as do also the greater part of the streets in the town, a magnificent view of the ocean, the two ports, Casilda and Guaurabo, a forest of palms, and the high group of the hills of San Juan. As I had forgotten to bring the barometer and other instruments to the city, I endeavored on the following morning to ascertain the height of the hill on which the church stands, by taking alternate altitudes of the sun above

¹ This river empties into the bay of Jagua, on its eastern side.—H.

² May not the city begun by Velasquez, have, perhaps, been founded in the plain, nearer to the ports of Casilda and Guaurabo? Many of the inhabitants suppose that the fear of the French, Portuguese, and English pirates (*flibustiers*), induced the selection of an inland site upon the sides of the hills, from whence, as from a high tower, the approach of the enemy might be discovered; but it seems to me that these fears could not have existed before the time of Hernando de Soto (1538). The city of Havana was first sacked by the French corsairs, in 1539.—H.

the horizon of the sea, and above an artificial horizon. I had practised this method at the castle of Murviedro, the ruins of Saguntum, and Cape Blanco near La Guaira: but the sea horizon was clouded, and broken in several places by dark streaks, which indicated the existence of small currents of air, or a series of extraordinary refractions.¹

We were entertained in Trinidad at the house of Señor Muñoz, the collector of customs, with a charming hospitality. I continued my observations during the greater part of the night under rather unfavorable circumstances, and found the latitude near the cathedral to be $21^{\circ} 48' 20''$. My chronometrical longitude was $82^{\circ} 21' 7''$. I learned on my second visit to Havana, on my return from Mexico, that this longitude was very nearly the same with that observed by Captain José del Rio, who long resided there, and also that that officer placed the latitude of the city in $21^{\circ} 42' 40''$. I have discussed this disagreement in another work, and it will suffice to note here that Mon. Puysegur found the latitude to be $21^{\circ} 47' 15''$,

¹ In the opinion of the great naturalist, Wollaston, whom I had the pleasure of consulting relative to this curious phenomenon, these black streaks consist, probably, of that portion of the atmosphere nearest to the surface of the ocean when the wind begins to ruffle it. In this case, the true horizon, which was more distant, would be made invisible to the eye by the opposition of color.—H.

and that observations of four stars in the Great Bear, made by Gamboa, gave to Mon. Oltmanns while ascertaining the declination according to Piazzi's catalogue, a latitude of $21^{\circ} 46' 25.''}$

The lieutenant governor of Trinidad, whose jurisdiction then comprised Villa Clara, Santi Espiritu, and Puerto Principe, was a nephew of the celebrated astronomer, Don Antonio Ulloa. He gave us a great dinner at which we met several of the French refugees from St. Domingo, who had brought hither only their industry and their intellectual acquirements. The export of sugar from Trinidad, according to the returns made up at Havana, did not then exceed four thousand boxes. The inhabitants complained of the impediments which the general government, in its unjust preference for Havana, placed in the way of the agricultural and commercial development of the Central and Eastern districts of the island; as also of the great accumulation of wealth, population, and authority at the capital, while the rest of the country was almost a wilderness. Many minor centres, distributed at regular distances through the island, were preferred to the prevailing system, which had resulted in attracting to a single point, wealth, corruption of manners, and the yellow fever. Similar exaggerated accusations, and complaints of provincial cities against the capi-

tal, occur in all countries. It cannot be doubted that in political organizations, as in physical, the general welfare depends upon the uniform distribution of the partial life; but we must distinguish between the preëminence which flows from the natural course of things, and that which results from the policy and acts of the government.

Discussions have often arisen at Trinidad, as to which of the two ports is the best; and perhaps it would be better if the municipal council should endeavor to improve either one of them with the small amount of means at its command. The distance of the city from Casilda, and from the mouth of the Guaurabo, is very nearly the same, but the cost of transportation of goods is greatest to the former.¹ The mouth of the Guaurabo, defended by a newly erected battery, has a safe anchorage, but it is not so well sheltered as that of Casilda.

Vessels of light draught can ascend the river to within a mile of the city. The mail packets to Costa Firme generally prefer the Guaurabo, as they can enter it safely without a pilot.

The port of Casilda is more enclosed by the land, but cannot be entered without a local pilot, because

¹ A railroad now runs from the city to Casilda, which has been much improved.

of the Mulas and Mulatto reefs. The great wharf which was built of wood, and was formerly very useful to commerce, was injured while landing some large pieces of artillery, and is now entirely destroyed; doubtless it would be better to rebuild it of stone, as proposed by Don Luis de Bassecourt, or to deepen the bar of the Guaurabo by dredging. The great fault of the port of Casilda, is the want of fresh water, which shipping must procure on the other side of its western point, exposing them to capture by privateers in time of war. We were assured that the population of Trinidad, and the plantations around it within a radius of one league, amounted to nineteen thousand souls. The cultivation of sugar and coffee has increased greatly, but the cereals of Europe are grown only further north toward Villa Clara.

We passed the evening very agreeably at the residence of Don Antonio Padron, one of the most wealthy inhabitants, where we met nearly all the principal residents of Trinidad. We again were surprised, as we had been at the capital, with the mirthfulness and quick intelligence of the Cuban ladies. These are happy, natural gifts, which the refinement of European civilization may make more attractive, but which are extremely pleasing in their primitive simplicity.

On the evening of the 15th of March, we left Trinidad, and our departure was widely different from our arrival, on horseback with the Catalan shopkeepers. The municipal council sent us to the mouth of the Guaurabo in a coach lined with ancient red damask; and to increase the embarrassment we felt, an ecclesiastic, who was also the poet of the place, dressed throughout in velvet notwithstanding the great heat, celebrated in a sonnet our voyage to the Orinoco. On the way to the harbor we were singularly surprised with a spectacle which a residence of more than two years in the tropics should have made familiar to us.

Nowhere else have I seen such an innumerable quantity of fireflies¹ (*cocuyos*), for trees, branches, and leaves glowed with them in their brilliant and moving light, the intensity of which varies with the will of the insect that produces it; it seemed to me as though the starry vault of heaven had fallen upon the plain. In the habitations of the poorer classes in the county, a dozen of these insects placed in a perforated gourd, suffice for a light during the night. By shaking the gourd quickly, the insect is roused, and lights up the luminous discs which are placed on each side of its head. The inhabitants

¹ *Elater noctilucus*.—H.

employ a truthful and simple expression, in saying that a gourd filled with cocuyos is an ever-lighted torch; and in fact it is only extinguished by the death of the insects which are easily kept alive with a little sugar cane. A lady in Trinidad told us that during a long and painful passage from Costa Firme, she had availed herself of these phosphorescent insects whenever she wished to give the breast to her child at night. The captain of the ship would not permit any other light on board at night, for fear of the privateers.

As the breeze continued to freshen, and haul steadily to the northeast, we laid our course so as to clear the Cayman islands, but the current swept us toward them. Steering south quarter east, we soon lost sight of the palm-covered shore, of the hills that rise over Trinidad, and finally of the high mountains of Cuba. There is something impressive in the contemplation of a land which one is leaving, as it sinks, steadily and slowly beneath the horizon of the sea. This impression was increased to us, in its interest and grave import, at this time, when St. Domingo, then the centre of great political agitation, threatened to involve the surrounding islands in one of those bloody struggles which demonstrate to man the ferocity of his nature. Happily these fears and menaces were not realized, for the tempest

lulled in the land that gave it birth, and a free black population, instead of disturbing the repose of the neighboring islands, has made some progress towards a suavity of manners, and the establishment of good civil institutions.¹

Haiti is surrounded by Cuba, Porto Rico, and Jamaica, with a population of 370,000 white and 885,000 blacks, while she contains 900,000 blacks and mulattoes, who have freed themselves by their own will, and the good fortune of their arms. These negroes, engaged much more in the cultivation of alimenticious plants than of colonial staples, increase with a rapidity that is exceeded only by the population of the United States. Will the tranquillity which the Spanish and English islands have enjoyed, during the twenty-six years that have passed since

¹ How sad to contemplate, in the present debased condition of the Haitian blacks, the failure of these noble and humane hopes. Yet the erroneous social theories upon which they are based, have been extended by the governments of Europe over many of the islands of the Antilles, and Cuba, and Porto Rico alone remain, unab-sorbed in the black abyss of barbarism, whose waves have rolled over the other West Indian isles, extinguishing the lights of their civilization, and the hopes of their humanity. We may here read the instructive lesson, that the principles upon which a social organism is based, cannot be violently changed without destroying its vital principle, and bringing desolation and death to the temporal and spiritual interests of its members.

the first revolution in Haiti, continue to inspire the whites with that fatal security, which disdainfully resists any improvement in the state of the servile class? On every side of that Mediterranean of the Antilles, on the west and on the south, in Mexico, in Guatemala, and in Colombia, the new legislators are laboring with zeal to extinguish slavery; and it may be hoped that the union of these imperious circumstances will assist the beneficent intentions of the several European governments, who wish to improve continually the condition of the slaves; for the fear of danger will force those concessions which the eternal principles of justice and humanity demand.

THE END.



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